ISSUE 30 ■ JANUARY 1992 ■ £3.95

ST FORMAT



BRITAIN'S BEST-SELLING MAGAZIN R YOUR S

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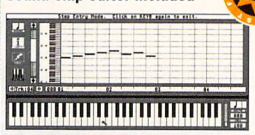
ST FORMAT — SOUND & VISION

ALL PROGRAMS STE COMPATIBLE

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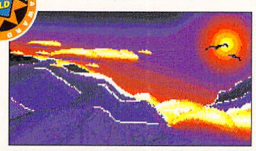
SEQUENCER ONE

Unique *ST FORMAT* version of this top music sequencing package – uses MIDI or the sound chip editor included



CANVAS

Start creating beautiful pictures with one of the most versatile ST graphics packages ever



Disk format by Rob Northen

ST FORMAT

ALL PROGRAMS STE COMPATIBLE



BABY JO
SNEAK PREVIEW!
Romp round this playable platform demo

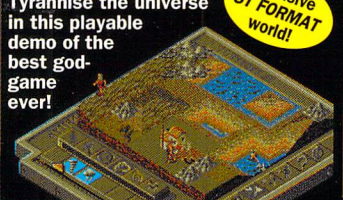


BIGEYE
Psychedelic *STOS* demo complete with source code

COVER DISK 30

POPULOUS 2
Tyrannise the universe in this playable demo of the best god-game ever!

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- **MIDI** music file from Dave Clackett
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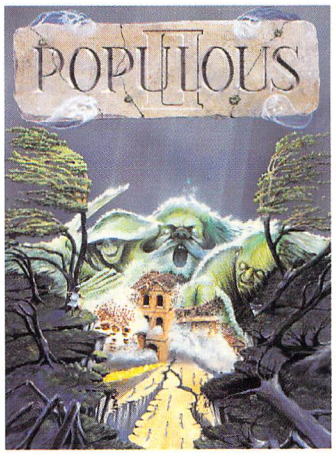
THE GODS ARE BACK AND ALL

HELL IS ABOUT TO BREAK LOOSE



opulous II has arrived and it's everything you'd dreamt it t be - and more.

More earthquakes, more volcanoes, more tidal waves,



Available late December for Amiga and ST.

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e deadly swamps, in fact the most devasting natural sters known to man, and a few he hasn't heard of yet.

This time you find yourself back in Ancient Greece, re as one of the sons of Zeus himself, your aim is to eve immortality and take your place next to him on Mount mpus.

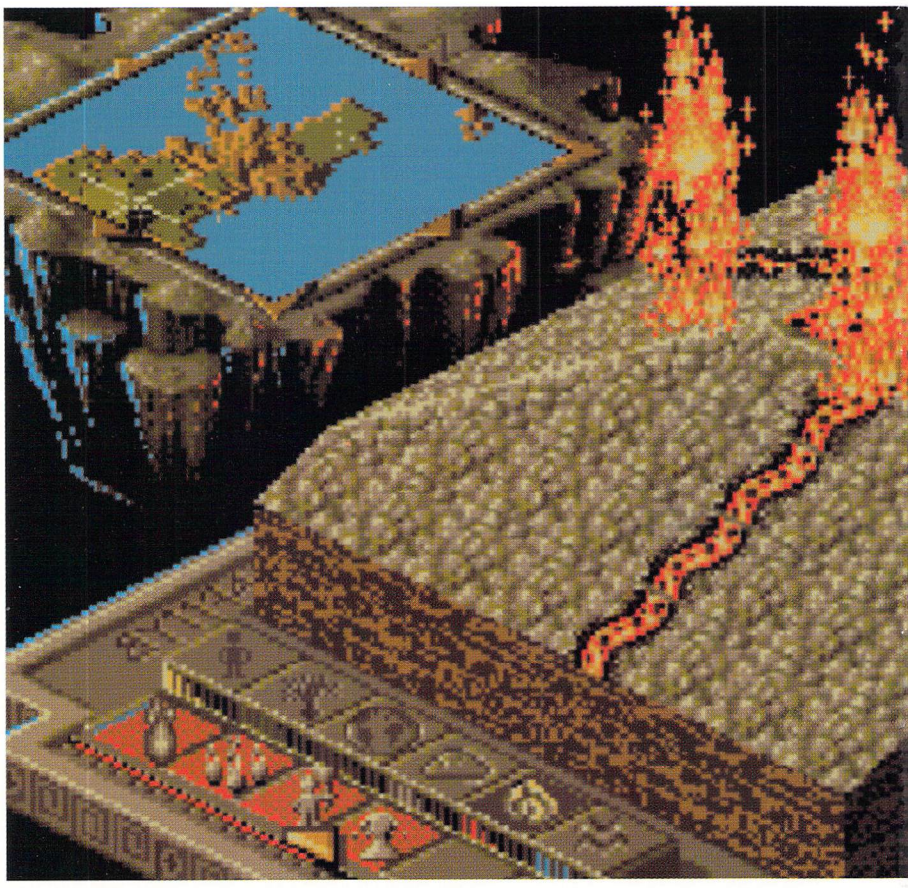
But the old boy isn't going to let you have your way out an almighty fight and he's conscripted 32 of his most erful deities to stand in the way of your ambitions.

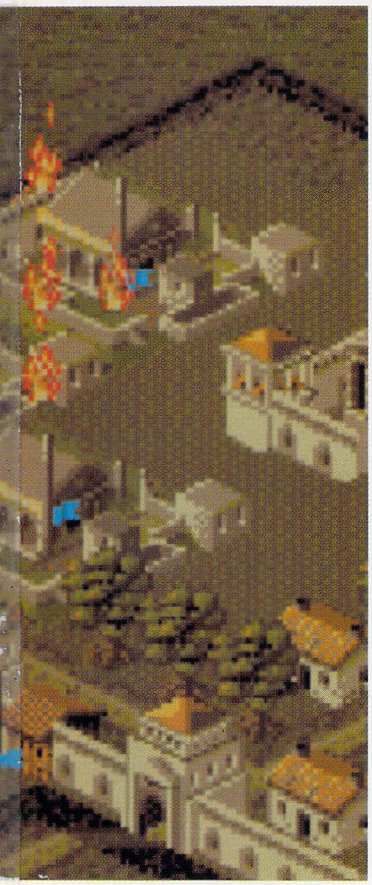
Design your own elaborate settlements with grand ses, roads and trees. Construct city walls in preparation nst the oncoming rains of fire, whirlwinds, bolts of lightning new, especially devious monsters like the foxy Helen of Troy, who leads people to their death with her beauty.

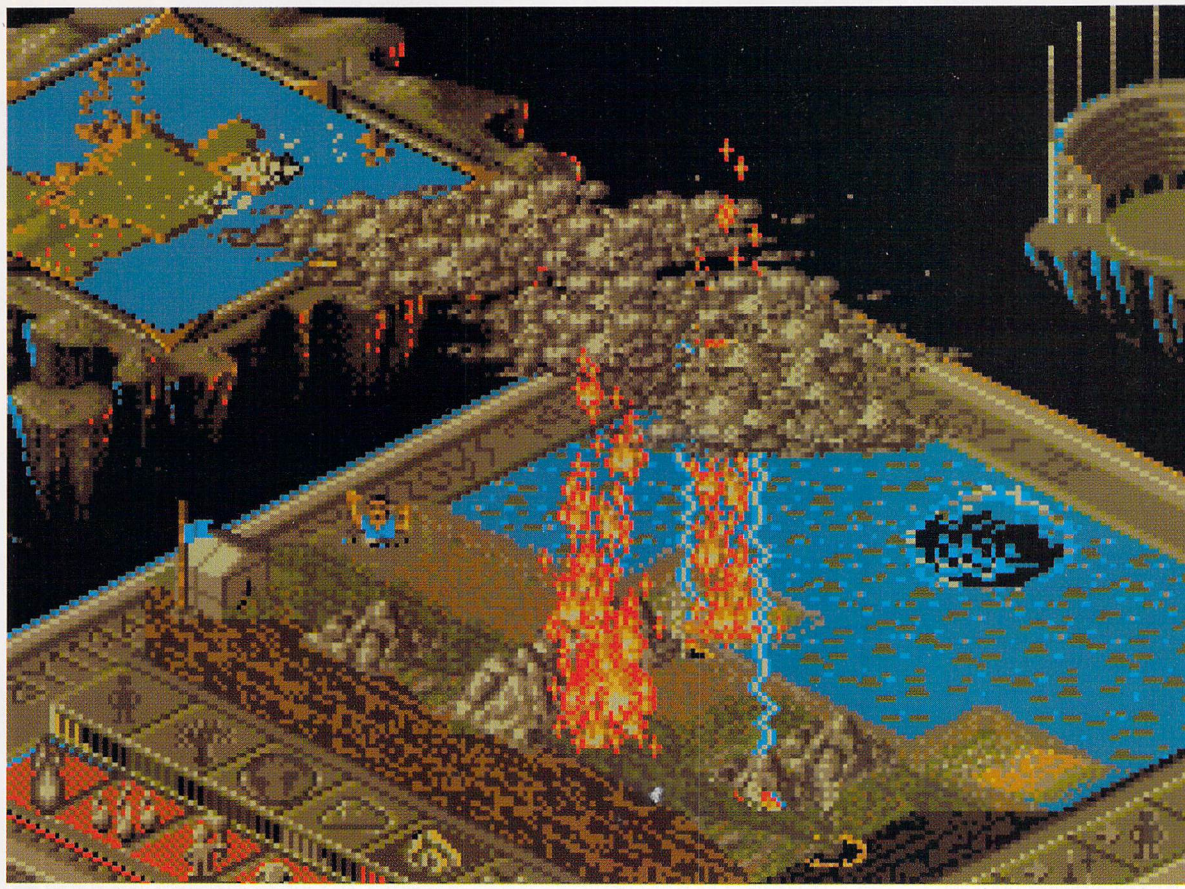


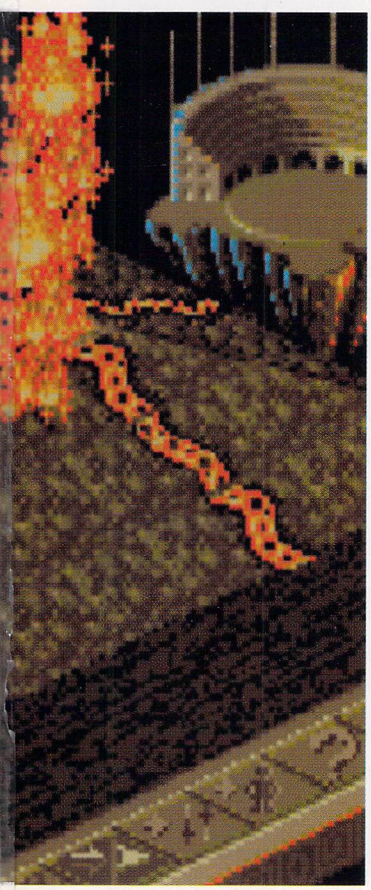
Populous II has 1000 worlds to conquer, 1MB of graphics, 5,000 animations, dozens of new sound effects and a mind-blowing sound track.

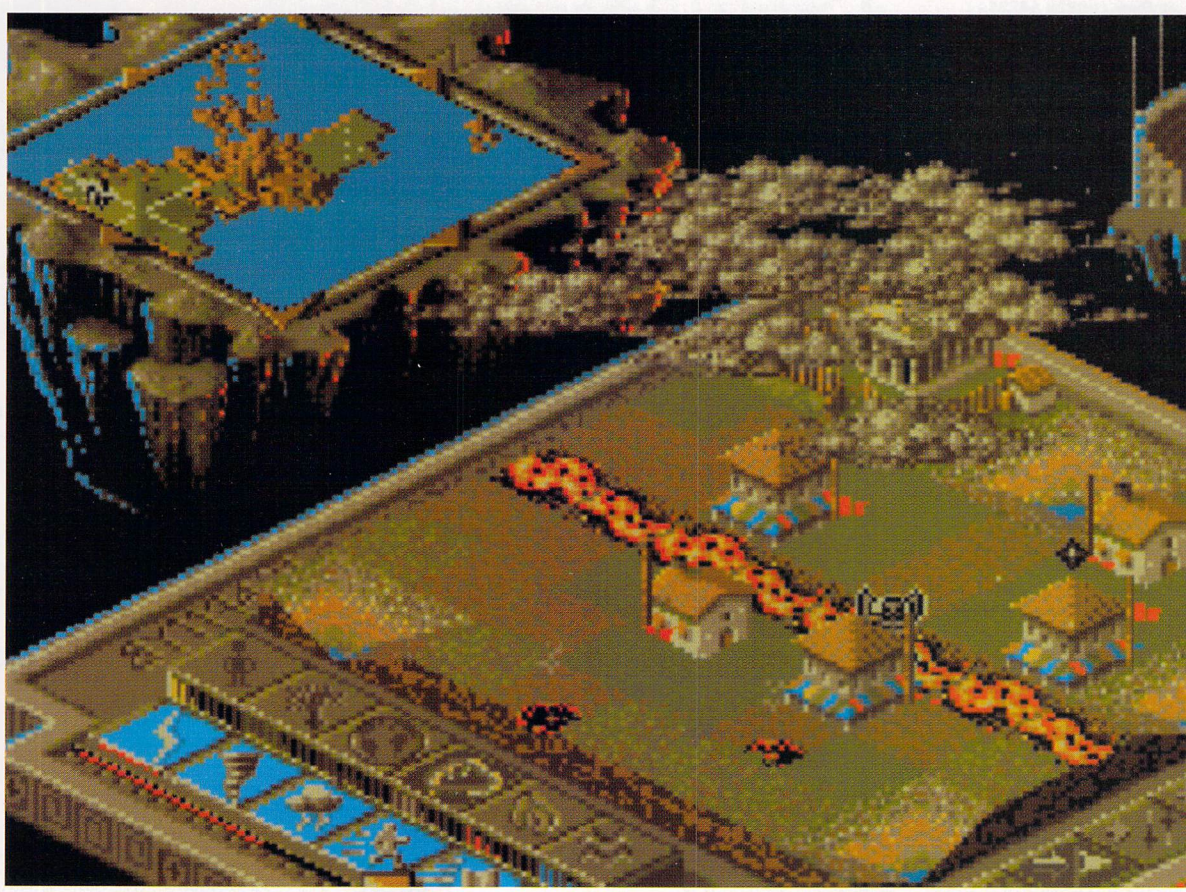
To celebrate it's release, you can also collect special Populous II T-shirts, mugs, data disks and interactive clue books from The World of Populous II which you will find in participating retailers.











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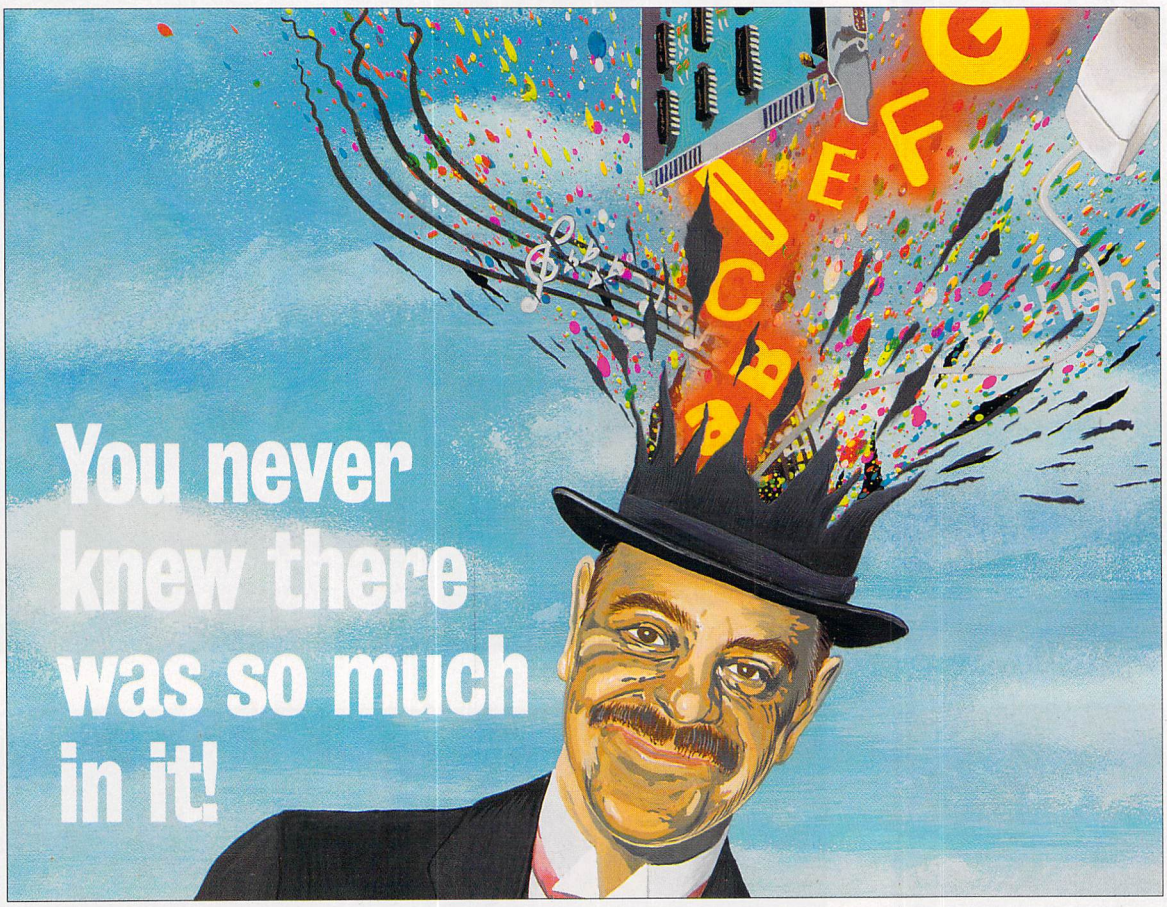
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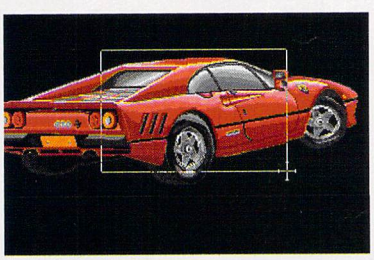
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Make the most of your creative talents with this special issue. Discover what you need to express yourself on page 90, then start putting your creative talents to use with our Sound and Vision second Cover Disk and special "Get You Started" supplement

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They revolutionised role-playing games with their two-player *Bloodwych*. Now Tag are working on a curious puzzle-solving role-playing game.

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This little device can replace all your remote control units and even enable your ST to take control of your television set – but do you want it to?

174 THE JANUARY QUIZ
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Do the best games always come late? We give you the lowdown on what's on the way, possibly, and spill the beans on ten we're still waiting for.

WITH THIS ISSUE – SOUND & VISION SECOND COVER DISK

Two complete programs worth £103.95!

Here's what we said about these programs when we reviewed them:

● *Sequencer One:* "Has the full range of features you'd expect from a professional package. Excellent speed with lots of well thought out short cuts. Very easy to get used to – a friendly, well documented program."

STF Rating 91% – FORMAT Gold!

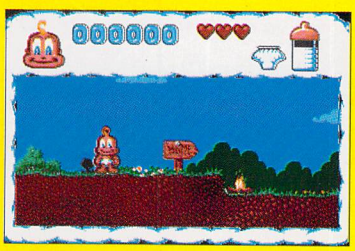
● *Canvas:* "Comprehensive and powerful features – polygon drawing, shadowing, masking, colour cycling, all kinds of animation and 3D design, 4,096 colours available on an STE, multiple workscreens... *Canvas* is a real mould-breaker!"

STF Rating 94% – FORMAT Gold!

SCREENPLAY

The definitive ST games guide begins on page 29

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67 GAMEBUSTERS
Cheat your way through your favourite games. This month we rip apart *Utopia, Cybercon 3* and *Mega Lo Mania*



● **Savage the gods in *Mega Lo Mania.***

77 PUBLIC SECTOR
If you know what to look for, you can often find what you need in the Public Domain for just £3 or so!

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THE GREAT STF COVER DISKS



Express your crea
talent with *S*
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Vision packag
Sequencer One
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Do *you* th
Populous 2 is the b
game ever? Is *Baby*
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for kids? Are PD der
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and answer all th
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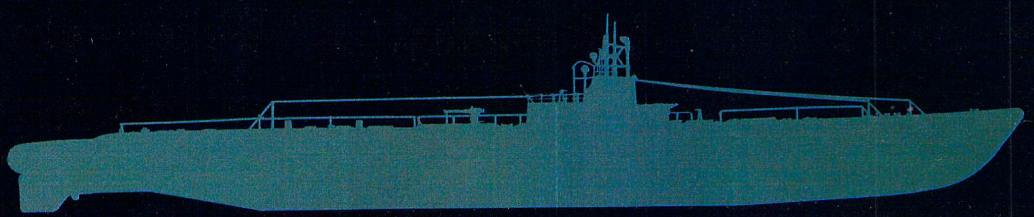
POPULOUS 2 – *HERE AT LAST!*



The best ST game yet? Programmers Bullfrog hope so. What d
you think? Play the *exclusive* world in the *Populous 2* Cover Di
demo, then read the comprehensive *FORMAT* review on page 3

PLUS ● *Baby Jo* – Sneak preview of Infogrames' platform ro
● *Entombed – complete* Ancient Egyptian puzzle game ● A M
music file to play on your own equipment ● *STOS* demo ● *Ste
Replay* in mono ● *Railroad Tycoon* for multi-MByte STs ● *and m*

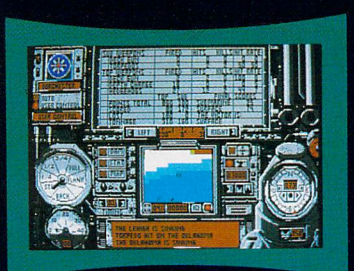
WOLF PACK

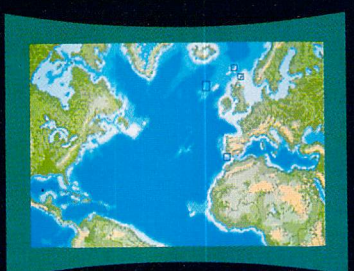


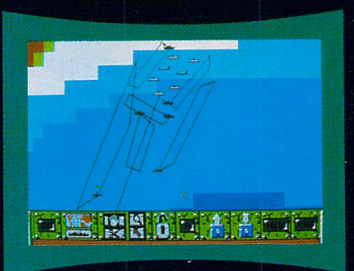
THE ODDS ARE EVEN . . . WILL YOU ENJOY A HERO'S WELCOME OR REST FOREVER IN AN ICY GRAVE?

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SCREEN SHOTS: PC VERSION







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Atari deliver mid-range machine at last ● ST's future assured? ● New emulator: all ST range could run PC programs

Long-awaited Mega STE arrives in UK

by Neil Jackson

After what seems like years of waiting, the very first Mega STEs are arriving in Britain, providing ST owners with an upgrade path that doesn't mean top-of-the-range TT type expense.

Primarily pitched as a business machine, the Mega STE is a powerful beast which is just within reach of existing ST owners who are outgrowing the smaller machines. Available in three forms, the Mega STE costs £821.33 with 1MByte RAM and mono monitor, £1,173.83 with 2MByte RAM, mono monitor and 48MByte hard drive, or £1,291.33 with 4MByte RAM, mono monitor and 48MByte hard drive.

Strangely, Atari are not yet distributing the Mega STE without the monitor, which may annoy potential buyers who already have a monitor attached to their old ST. Also rather oddly, Atari are not supplying the system with a colour monitor either, but it's expected that new configurations will emerge as the machine takes off.

The Mega STE uses a combination of existing STE-standard equipment, plus a few new hardware devices originally developed for the top-level TT range. The casing is exactly the same as the TT's, except that it's ST grey rather than TT white. A TT-style keyboard replaces the old Mega ST version, the main differences being more responsive keys and redesigned function buttons.

ST and STE-originated cartridge and MIDI ports are fitted, as are stereo sound outputs, DMA socket, printer and serial ports. From the TT, the Mega STE inherits a Local Area Network (LAN) connector which enables multiple Mega STEs to be linked together in multi-user environment.

In another odd move, Atari have decided to drop the STE-style analog joystick ports, because of lack of hardware support from third parties – though why Atari can't make their *own* analog joystick is anybody's guess.

Inside the Mega STE, several improvements have been made to the custom chips that hold the system together. Out go the old GLUE and MMU chips, to be replaced by a new GSTMCU chip which does both the old chips' jobs. You'll also find a System Control Unit (SCU) and an enhanced SHIFTER chip, the GSTSHFTR.

The now-standard blitter (bit-block transfer processor) remains, and is backed up by the addition of a Motorola 68881 maths co-processor. Also new is the Zilog 85C30 chip which controls the Mega STE's LAN functions and provides two serial ports rather than the usual one.

Atari's commitment to the Motorola-developed range of 68000 processor systems has moved up a notch – the Mega STE has a VME-standard connector inside, enabling you to plug in a range of VME cards. These can be used to interface the system to a range of different peripherals and graphic displays at a later date.

On the software side, the Mega STE features the all-new TOS 2.05, a development of the TT operating system. This provides full ST and STE downward compatibility, and provides new user-friendly features that were previously only available on replacement Desktops like *NeoDesk 3*.



● The Mega STE finally arrives in the UK, offering more power and 16MHz clock speed – twice that of the STE!

3D made easy

by Chris Lloyd

Mandarin's *STOS* BASIC family is about to grow again with the release in the next month of *STOS 3D*, an extension to the main *STOS* programming package. £34.99 buys you the ability to add solid 3D vector graphics to your programs.



● *STOS 3D* adds solid filled vector objects to your games and demos – and the objects look pretty impressive. *Starglider 2*, here we come!

Objects are created from basic geometric shapes like pyramids and rectangles using an object editor. These objects can then be manipulated using 30 new commands which extend the original BASIC language. You can play about with up to 20 objects, and each one can be moved in all three planes, stretched, shrunk and rotated. Mandarin believe that "*STOS 3D* will take creation on the Atari ST to new heights and blow the Public Domain world apart" when it is used to produce PD demos.

Use the optional *STOS* compiler and your home-grown games "will fly along at the speed of commercial games," say Mandarin. In reality, the final speed will depend on the complexity of the objects you create.

The new interpreter extension weighs in at a hefty 90K, but this should still leave room to create a virtual world on a 520 ST. If you need some encouragement to get you started, *STOS 3D* is supplied with over a dozen demos and a sample game.

The original *STOS* system has been enormously successful; Mandarin say well over 120,000 people have been introduced to its simple and powerful version of BASIC. Things are set to get even better for Mandarin, now that they have brought the daunting topic of real-time 3D into their fold, especially if they continue the *STOS* reputation for bringing complex programming within reach of everybody.
Contact Mandarin on ☎ 0625 859333.

Stereo on a shoestring

Microdeal have just announced the release of *Stereo Master*, a new low-cost stereo sampling cartridge for all STs which offers professional-level features for a mere £39.95.

With it, you can create and modify stereo samples, and examine them with a spectrum analyser and a 3D display. You can re-size and filter chunks of sound and apply real-time efffects like chorus and flanging, then add MIDI control so you can play them from a remote keyboard.

Intended as a stereo upgrade from *Master Sound*, Microdeal's first low-cost mono sampler, *Stereo Master* can exploit all of the STE's stereo facilities. Until now there was no cheap way of doing this without resorting to programming.

Stereo Master is Microdeal's second sampling cartridge in as many months, following *Stereo Replay* (reviewed in *STF* 29). That is a more expensive system but it was the first stereo system available for the ST. *Stereo Master* provides many similar functions but at a reduced price. Contact Microdeal ☎ 0726 68020 – or see page 118 and save £10 on *Stereo Master*.

GET EVEN MORE OUT OF YOUR EXTRA COVER DISK – PAGE 158

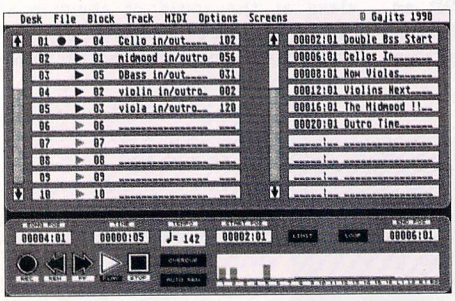
Second in the sequence

SEQUENCER ONE IS YOURS ON THIS MONTH'S SPECIAL DISK!

by Neil Jackson

Gajits Software, the company responsible for the *Sequencer One* program on this issue's extra Cover Disk, have just announced the release of a brand new ST sequencing program with major new facilities.

The new program, *Sequencer One Plus*, costs £129.95, but for a limited period Gajits can supply an upgrade for existing *Sequencer One* owners for only £49.95. *ST FORMAT* readers are even luckier – because you can obtain the *Plus* upgrade to go with your new Cover Disk version of *Sequencer One* for only £39.95. See our special music mail order service on page 158 for this and other special offers from Gajits.



● **The main screen of *Sequencer One*, yours on this issue's extra Cover Disk. Now an upgrade is available – and at a special *ST FORMAT* price!**

Like its predecessor, *Sequencer One Plus* is a full-blown MIDI sequencer, but it can also make use of the internal sound systems on both STs and STEs. It can play four independent channels of samples simultaneously – and it can do this in stereo on the STE.

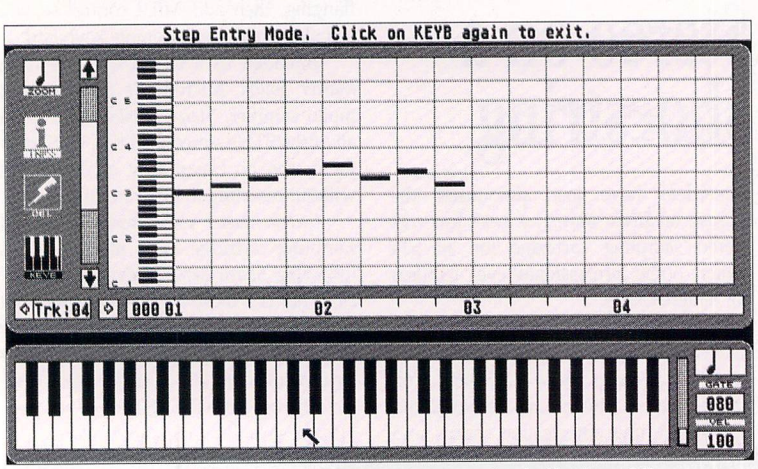
Sequencer One Plus can also replay samples through the Microdeal Replay and Playback cartridges – both mono and stereo types.

The upgraded program features a new note-editing system called *Diamond Drag*, which enables you to transpose, stretch, shrink, move and delete notes just by using the mouse. Gajits reckon that *Diamond Drag* does this "with the minimum of fuss" and "allows very fast note-editing."

Another addition is a Juke Box screen, which you can use to chain songs together, one after the other. *Sequencer One Plus* can load a song while another is playing, without any interruption, so that entire repertoires can be played automatically without pausing. This could be good news to performers using the program in a live situation.

Other features include tempo maps, auto count-in, MIDI system exclusive data-handling, and better quantize options, none of which can be found on the original *Sequencer One*.

For further information, contact Gajits on ☎ 061 236 2515. For details on how to get the best out of your complete *Sequencer One* Cover Disk program, turn to the special supplement included with this issue.



● ***Sequencer One's* Step Editor enables you to see notes in the top of the screen as you enter them. The *Plus* version has these kinds of facilities and much more.**

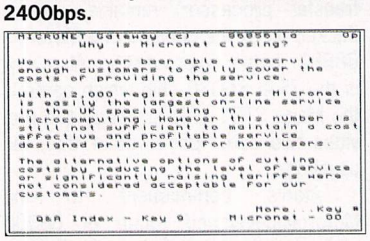
MicroNetters get back on line

As a result of the closure of BT's MicroNet telecommunications service (reported in last month's *STF* News), On-Line Entertainment have decided to offer free membership and £5 worth of free connection time to ex-Micronet users.

The On-Line service runs two major multi-player games, *Air Warrior* and *Federation 2*, which link players together in real-time using the telephone network.

The better game, *Air Warrior*, is a multi-player flight simulator with WW1, WW2 and Korean air combat. Up to 40 players can access the system and fly against each other simultaneously.

To claim your free membership and line-time, ex-Micronetters should send a copy of any of their 1991 Micronet bills to On-Line Entertainment Ltd, 642a Lea Bridge Road, Leyton, London E10. For more information contact Clem Chambers on ☎ 081 558 6114. The On-Line computer is available on ☎ 081 539 6763, at any modem speed up to 2400bps.


MICRONET Gateway (c) 00056110 Op
Why is Micronet closing?

We have never been able to recruit enough customers to fully cover the costs of providing the service.

With 12,000 registered users Micronet is easily the largest on-line service in the UK specialising in microcomputing. However this number is still not sufficient to maintain a cost effective and profitable service designed principally for home users.

The alternative options of cutting costs by reducing the level of service or significantly raising tariffs were not considered acceptable for our customers.

More.. Key *
Q&A Index - Key 9 Micronet - 00

● **MicroNet broke the news of its own closure and said goodbye on-line – but now On-Line have good news again.**

STF in a box

ST FORMAT and Atari have struck a deal which means that everyone who buys an STE Discovery Xtra pack this Christmas also gets a free special edition of Britain's top ST magazine thrown into the bargain.

The Discovery Xtra pack is now the standard entry-level ST package. It contains three "starter programs" to demonstrate the ST's potential for "serious" computing, plus four games covering a range of game styles: the highly-regarded god-game *Sim City; Escape from the Planet of the Robot Monsters*, an absorbing isometric 3D shoot-'em-up; *Final Fight*, an entertaining beat-'em-up; and *Nine Lives*, a platform game.

Atari expect to sell some 50,000 of the packs over the Christmas period, and all these new ST owners will be given a helping hand by *ST FORMAT*. The special edition, prepared exclusively for the pack, is designed to introduce new users to the range of software and hardware available for their machine, as well as providing the information they need to get started with the ST and get more from the Discovery Xtra pack.

And that's not all: next month's issue of *STF* boasts a special beginners' guide in addition to all our regular features, news, hints and tips – see page 178 for details.

WHISPERS

News from thither and yonder

● To make life easy for users of their QY10 Walkstation, Yamaha are giving away free copies of *Squirrel*, an ST program to handle QY10 patterns and songs. The new program is designed to work with all STs, but is only compatible with high-resolution monitors. It can save, load and arrange your QY10 patterns and songs, enabling you to back them up safely onto more reliable ST disks. *Squirrel* also provides many new patterns which, together with your own, can be organised in three different banks. To get your free copy of *Squirrel*, contact your local Yamaha music dealer or Yamaha Kemble on ☎ 0908 366700.

● GST Software have just launched *Timeworks Publisher 2*, which adds more speed and power to the original award-winning *Timeworks* ST DTP program. The new upgrade sells for £129.25 and, although largely similar in appearance to the older version, has improved power and compatibility. Extra fonts are supplied to get you started. Watch for the full *STF* review next issue – or if you can't wait, phone GST/Electric Distribution on ☎ 0223 462212.

● MPH, the company behind *TCB Tracker*, have gone into receivership and have had to drop their plans to release the Stereo Monster Sound cartridge on the ST. Managing Director of MPH, Philip Harman, stated that the reasons for closing down the firm included lack of support from distributors and his own ill health. Harman found that many of the large-scale distribution companies were not prepared to stock the range of MPH packages and consequently he was forced to liquidate the firm.

The new 8-bit stereo sampling cartridge, Monster Sound, was due to be released this month, but its future is now uncertain. Harman is dubious about selling the rights to other firms because of problems that this type of deal has caused his company in the past. He believes that earlier attempts to license MPH products have resulted in MPH being short-changed.

FORMAT readers who have recently ordered anything from MPH are advised to contact MPH on ☎ 0603 503382 to arrrange for monies to be returned.

● The Fifth International 16-Bit Computer Show has become so large that it's moving to Wembley Exhibition Centre this year. The show, aimed at potential and current owners of STs and other 16-bit computers, is being used to present a range of new releases for business, education and entertainment. Attendance at last year's July show, held at the Hammersmith Novotel, reached 25,000 and the move to the larger Wembley venue is an effort to avoid overcrowding.

Atari UK are expected to be present at the show, demonstrating the entire ST range for 1992, as well as new programs. The show is open from Friday 14 February until Sunday 16 February. To pre-book tickets, contact Westminster Exhibitions on ☎ 081 549 3444.

50,000 Members

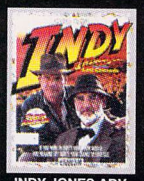
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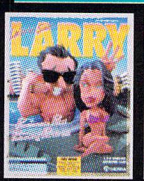

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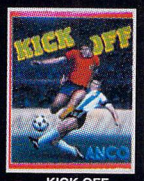

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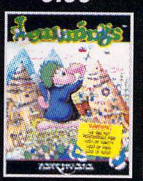

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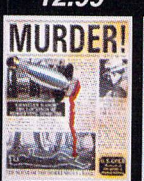

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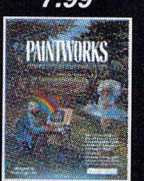

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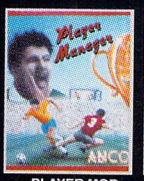

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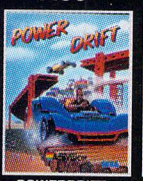

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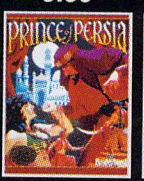

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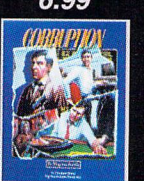

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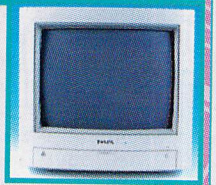
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A speedy PC for all STs

by Ed Ricketts

German hardware-makers Vortex have announced that their ATonce-386SX PC emulator, previously only available for the Mega STE, is now available for fitting inside any ST or Mega with at least 1MByte of memory. This means that (memory permitting) the whole ST range now has the power to run the huge variety of games and serious software designed for the mainstay of the PC world.

If you're looking for fast PC-compatibility, the basic-model ATonce-386SX will set you back £299, from Vortex's UK distributor, Silica. To go with the basic emulator there's a 512K Fast-RAM card (though Silica haven't yet decided on a price for this) and a maths co-processor (for around £129).

The emulator comprises a 32-bit CMOS 80386 16MHz chip (the basis of a 386 IBM PC system), which achieves a Norton SI rating of 8.4. (The Norton rating is the standard used to measure the raw speed of PC systems.)

With the addition of the 512K Fast-RAM, the SI rating is increased to 15.6. This is almost as good as standard 386 PCs, which usually have a Norton SI of around 19.

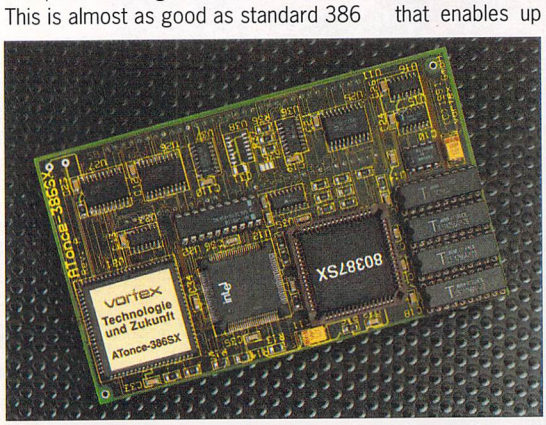
To speed things up even more, you can add a 80387SX-16 arithmetic co-processor. This special chip is designed to handle slow, number-intensive operations in applications like spreadsheets or CAD programs, thus freeing the main processor to do other more important tasks.

On a 1MByte ST you have 704K of DOS memory available for loading and running programs (DOS being the PC equivalent of the ST's TOS), but of course the more memory you have initially, the more you can use. With a 4MByte ST, for instance, you have three more megabytes of program space plus the basic 704K, using the PC's Extended Memory configuration.

Emulated graphic modes include CGA, Hercules, Olivetti and Toshiba T3100. Most games and much serious software packages use EGA (640 x 350 pixels) or VGA (640 x 480 pixels) mode. An ST can only handle EGA with a monochrome monitor, which isn't much good for the 256 colour displays of many games.

Multitasking of sorts is achieved with the Vortex *HyperSwitch* program that enables up to eight programs to run simultaneously (depending on how much memory you have). Also included is a font editor called *FontMaster* which creates and edits DOS screen fonts.

Contact Silica on ☎ 081 309 1111 for more details – and for a roundup of other ST emulators available, see the special feature in *STF* 25. If you missed that, turn to page 142 to order back issues.



● **The Vortex ATonce-386SX board now enables you to harness the power of an 80386 PC on any ST. With the addition of a co-processor and Fast-RAM you can even outrun many ordinary PCs.**

SCOTTISH SOLUTION TO ST INFECTION

A new virus-killing program is now being distributed in the UK exclusively by Caledonia PDL, and it could rescue and protect your entire software collection.

Known as the *Exorcist 3*, the virus-killer is available in two forms. The cheaper, at £8, is a basic version with on-disk instructions, but a version with the full source code and associated files is available for £12.

The *Exorcist* doesn't just protect your disks from virus infection – it also contains a complete boot-sector management utility and a disassembler, enabling you to decipher any hidden programs which may be lurking on your disks. There's also a library of known viruses, anti-viruses and commercial game bootsectors, enabling you to positively identify viruses and replace the original bootsectors that have been damaged. You can add to this library at any time, so that new bootsectors and viruses can be spotted by the *Exorcist* as they appear.

The *Exorcist* combats viruses by writing a special anti-virus program to your disks which then immunises your ST against infection. The anti-virus is reset-proof and it flashes the ST's screen when you insert a suspicious disk into your drive.

The *Exorcist* works on all STs with colour monitors attached – currently no high resolution support is offered. For further information, contact Caledonia PDL on ☎ 0463 225736.

GIVE YOUR ST SOME REAL STICK

Stick-specialists Spectravideo have a new joystick which they reckon is the closest thing to arcade joysticks in both style and response. The Quickjoy Mega Star costs £27.95, comes in a clear plastic case like the popular Quickjoy Top Star, and has microswitches throughout. Oddly, it also boasts three <Fire> buttons – which is odd because games need to be specially written to use these. Designed primarily for table-top use, the Mega Star has a sturdy steel shaft and a polished acrylic base.
Contact Spectravideo on ☎ 081 900 0024.



● **Cor! Just look at the buttons on that then, eh? Like to get your hands on this? Now you can, thanks to the arrival of Spectravideo's new arcade-syle Mega Star.**

BOXING CLEVER – CASE ONE

Premier Micros now stock a range of add-on casings which you can use to create a professional quality ST workstation. The casings, called "Modular Centre Consoles," fit over the top of standard 520 and 1040 STs, and are strong enough to support a monitor.

Premier Micros can now supply three different types of casing, at £24.99 for the low-end View Centre, £49.95 for the mid-range double-decker Control Centre and £74.44 for the top-of-the-range triple-decker Control Centre Plus.

All the new casings use strong grey-painted sheet-metal which is tough but light to carry. Each unit can also relocate the ST's awkward mouse and joystick ports. For more information, contact Premier Micros on ☎ 0480 300738.



● **The View Centre and Control Centre Plus are just two of Premier Micros' new range of replacement ST casings. Now you can make your humble 520 look like a double-decker Mega.**

BOXING CLEVER – CASE TWO

Another company, AVA Developments, have coincidentally also picked this month to start offering an alternative casing for your 520 or 1040 ST, proving that it's worth shopping around if you're looking to improve your ST's appearance.

The AVA Expansion Stand costs £29.95 and fits over the top of your existing casing, rather like the Premier casings (see "Box Clever – Case One"). It's also strong enough to take a monitor and it can hold an additional extrernal disk drive, but it has no handy shelves for storing other peripheral devices.

The Expansion Stand is fitted with protective rubber feet and is colour coordinated to match your ST. To order, phone AVA Developments on ☎ 0908 262137.



● **AVA Developments also offer a new box for your faithful ST. Tough and durable, it could be just what a hard-working ST needs to keep it safe from the deadly coffee-spill.**

Software by phone

A new Dial-A-Game service enables you to order software by telephone and have it delivered to your door – without the need for a credit card.

Deltronics, the company behind the scheme, reckon they can deliver any currently available ST game on the day after you call. You pay nothing until the game arrives, and prices are, according to Deltronics, lower than those in most High Street stores. All you need to do is give your name and address and the title of the software you require and Deltronics do the rest. Your telephone call is even charged at the standard rate rather than at the expensive 0898 rate.

The scheme is touted as "No risk and Instant" because you only pay when you get your program – there's no sending off money in advance – and you don't need to wait for cheques to clear.

To get your games, couch-potato style, phone Dial-A-Game on ☎ 0850 348941 or ☎ 081 769 9568.

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TIMEWORKS PUBLISHER 2 ST

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These are just some of the enhancements offered by this major upgrade – in addition to all the Timeworks Publisher features you know and love. It's still just as simple to use and enjoy; still superb value for money.

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STF 01

Sound and vision!



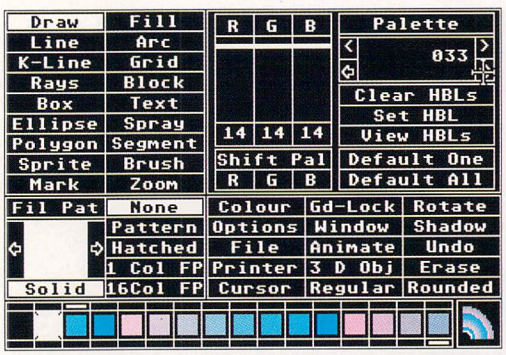
Over £100 worth of commercial software for £1 can't be bad. So what are you waiting for? Rip that second disk off this month's cover, pop it in your disk drive, then pick up our special "Get you started" supplement and follow our guides – start making the most of our two FORMAT Gold winning packages now!

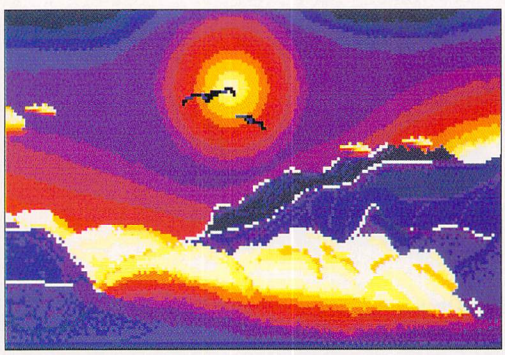
What better way to exercise your creative talent than with a music and graphics package? As part of this issue's "expression" theme we're giving you two *FORMAT* Gold winning packages worth over £100 for just £1. We're also giving you a special "Get you started" supplement to guide you through both packages. Why? Because we're completely nuts, that's why!

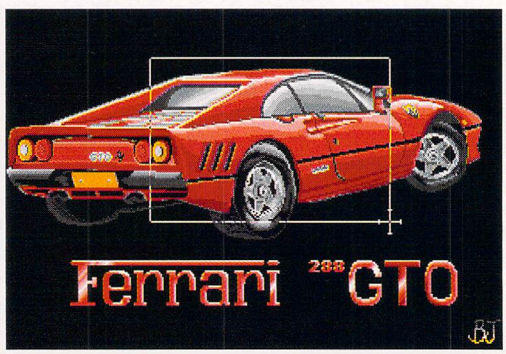
This month's issue is all about ways to express your creative talent. On page 90 we look at the different ST applications and packages which enable you to turn your ideas into something solid. But before you get that far, take advantage of the special second Cover Disk which includes two full packages that were rated at *FORMAT* Gold when they were first released. Now, for just £1 extra, they represent even more phenomenal value for money. *Sequencer One* is a top-of-the-range MIDI and sound chip package from music giants Gadgits, and *Canvas* is undoubtedly one of the most versatile art packages the ST has seen.

Also accompanying this bulging issue is a special "Get you started" supplement, which includes step-by-step walkthroughs and detailed guides to all the elements of both packages. When you think you've got the hang of *Canvas,* enter our competition and win yourself £250 cash! In next month's issue (out on Thursday 9 January) we're giving away some more samples for use with *Sequencer One* – and giving you the chance to win some MIDI gear of your own.

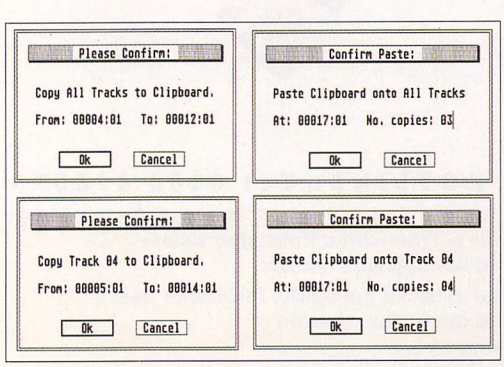
You'd be hard pressed to find a better Christmas present in the entire universe!

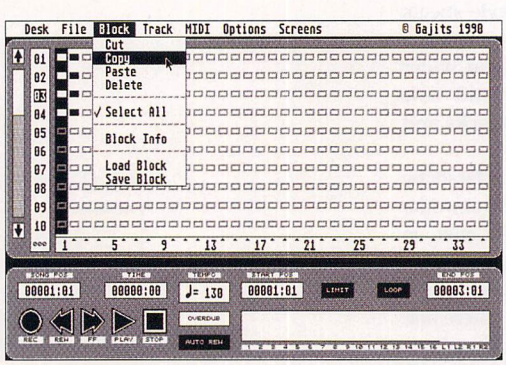


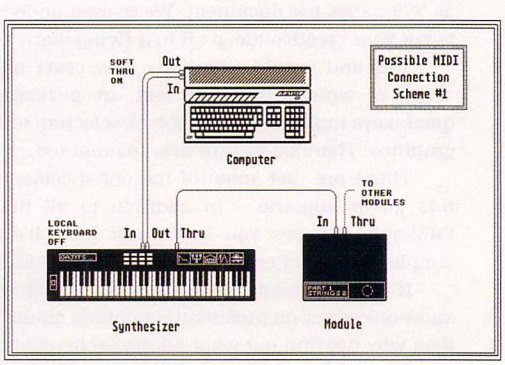




● ***Canvas*** **is one of the most versatile graphics packages you're likely to find. Besides all the usual painting and drawing features you'd expect in any commercial art package, *Canvas* also comes with a handy 3D object creator so you can generate 3D objects, plaster them across your screen and rotate them any way you like. If you own an STE, *Canvas* makes use of the extended palette. Using a special display option you can also show up to 4,096 colours on screen at once (512 if you own an ST). Because *Canvas* saves its pictures in *Degas Elite* format, many professional artists use *Canvas* to create graphics for games. Many winners in *FORMAT's* Gallery section (see page 126) also create their piccies with *Canvas* – but they had to pay £14.99 for their copies!**







● **The ST is widely acclaimed as the ultimate music computer. Musicians around the globe use the ST to create chart-topping music. Now it's your chance to follow in their footsteps. Even if you don't own any MIDI gear you can still have fun with *Sequencer One* because it comes with a full sound-chip editor, enabling you to play music through any ST. If you do decide to invest in a piece of MIDI gear or if you own a MIDI keyboard or other piece of music equipment, then you can really make the most of *Sequencer One's* advanced music features. And if you can tear yourself away from *Sequencer One,* check out page 158 for some extraordinary offers to help you get even more from music on your ST – ranging from extra samples to the outstanding *Sequencer One Plus.***

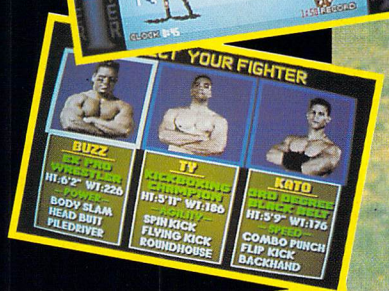
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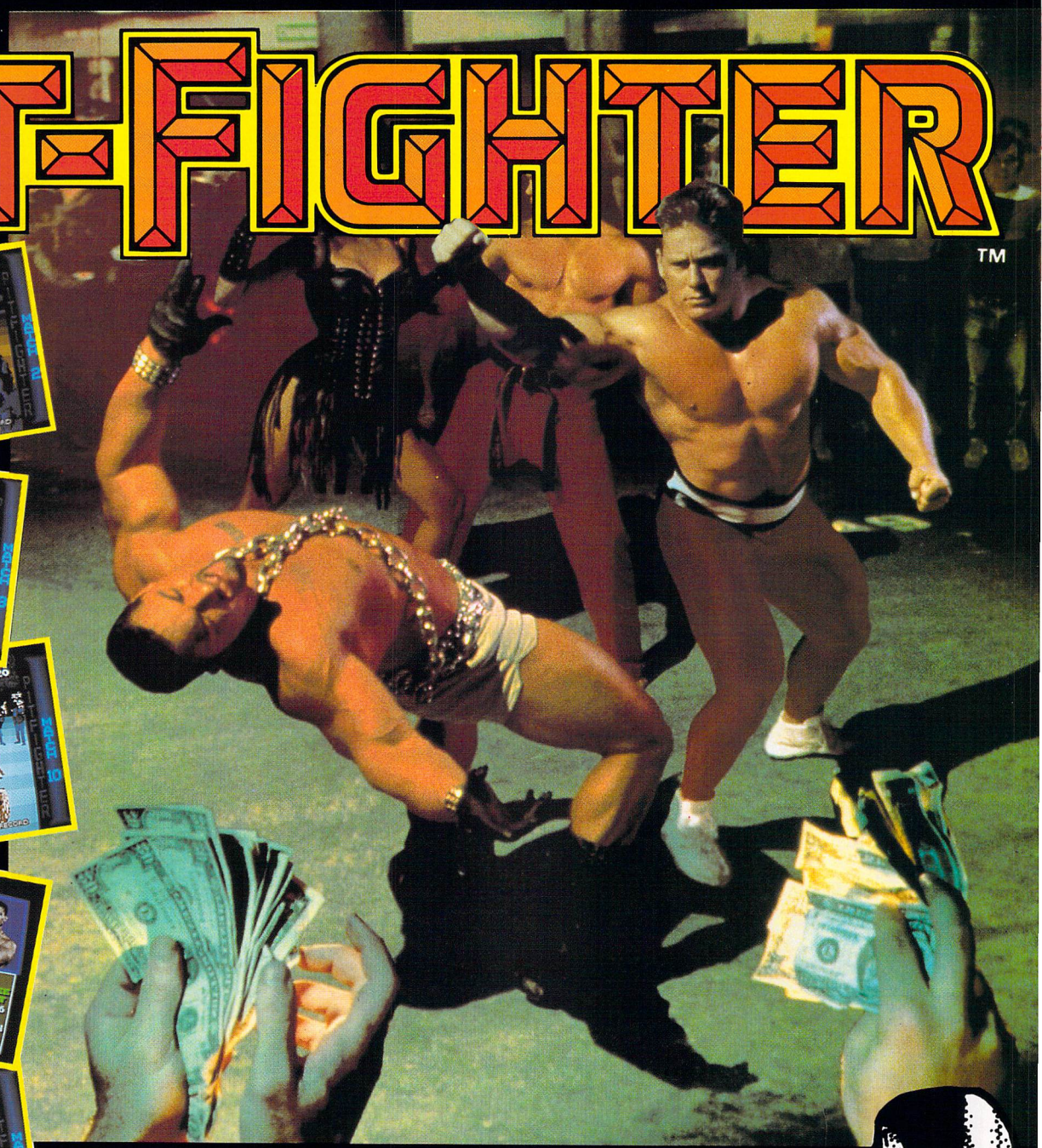


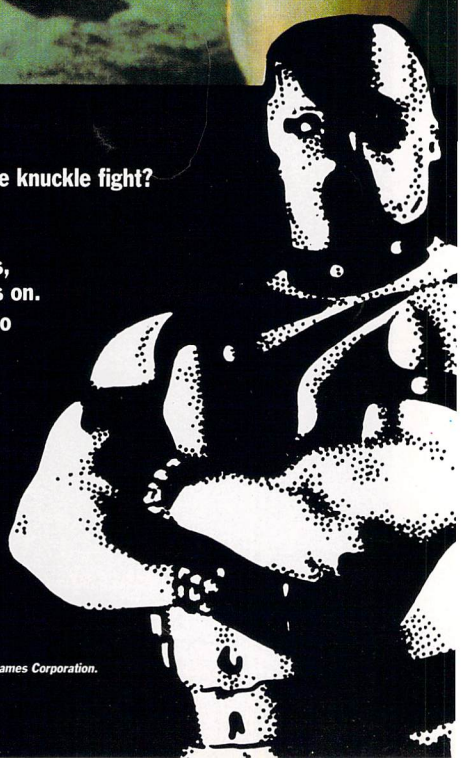




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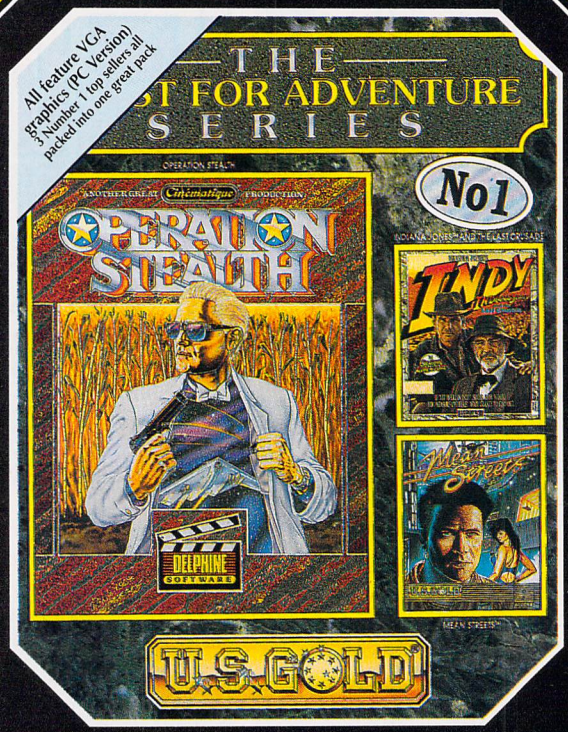
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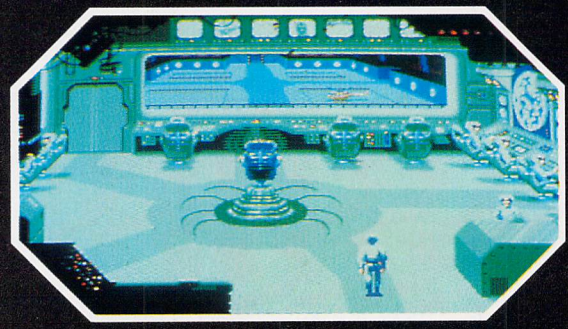
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THE GODFATHER™ - THE ACTION GAME

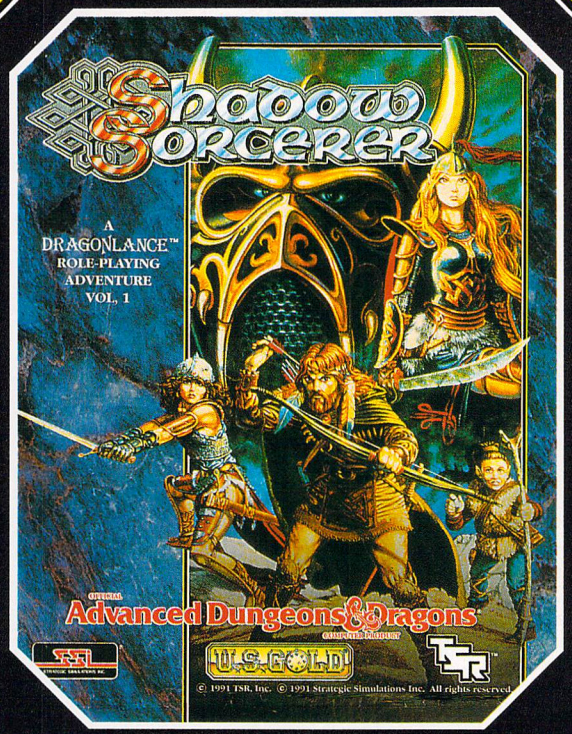
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ATARI ST



SHADOW SORCERER

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Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which may vary considerably between different formats in quality and appearance and are subject to the computers specification.

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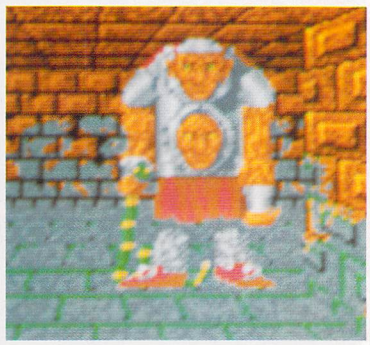
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Previews

You're privileged to be taking part in a unique experiment. When you've finished reading Previews, lightly lick the outside edges of the pages. Incredible, isn't it? Just don't go near any large grassy spaces in the next hour, or you'll get a shock. Ed Ricketts did, and just look at him now...



● **Meet a few monsters like this ogre chappie and you're likely to start longing for some *Abandoned Places* all right. Gives a whole new meaning to the term "two-faced." Electronic Zoo promise "programmable" monsters – but can you program them to go away?**

Some time ago (issue 23, actually) we previewed Ocean's ***Epic,*** which even then was way past its projected release date. Six months later the game is almost ready for release and it's set to be a real classic.

Epic is programmed by Digital Image Designs, most of whom were previously members of Rowan Software and have *F-29 Retaliator* to their name. It's a good old-fashioned shooting match with some decidedly new-fashioned graphics.

As the pilot of the Epic craft, you're sent on a series of missions to wipe out the enemy completely. (No point in doing things by halves.) These missions take place both in space and on the surface of many planets. Space missions require you to destroy whole fleets of enemy fighters (you're outnumbered four to one) to gain access to the planets. Here you have to destroy various buildings depending on what the enemy use the planet for: on a refinery planet, it might be mines and processing centres, to knock out their manufacturing capabilities.

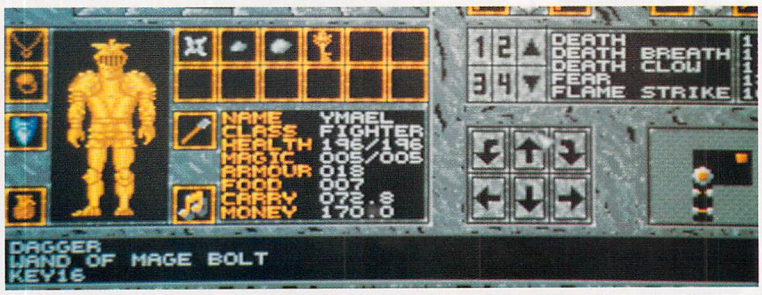
So it's wholesale destruction on a grand scale. With the graphics to match – imagine *Thunderhawk* with faster, more detailed and more realistic graphics and you'll have an idea of *Epic*. Developed on an ST, it has full 3D views that move at incredible speeds



● **"They came out of the sun, 40 million of the blighters. We weren't worried. We just popped into our Reeves and Mortimer Time Machine, zipped back to the ship construction plant and chucked a fatal design flaw into the blueprints. One tap and their ships will fall to pieces. Bwa-ha-ha (etc)!"**

but manage to include huge objects with detailed shading. The sense of scale is also incredible. In space, the enemy has gigantic motherships which dwarf you completely; switching to an outside view shows you just how small you are compared to it. You can even fly through gaps in its superstructure if you're bloody careful. The graphics do bear an uncanny resemblance to *Thunderhawk's* but DID claim they began *Epic* long before Core started their opus.

The game should be released before Christmas, once the few rough edges have been sorted out. We await the finished version with sweaty palms.



● **This sounds like someone to avoid, with his "Death Breath" and "Death Clow" – er, whatever that may be. Lost something in translation from Hungarian, possibly?**

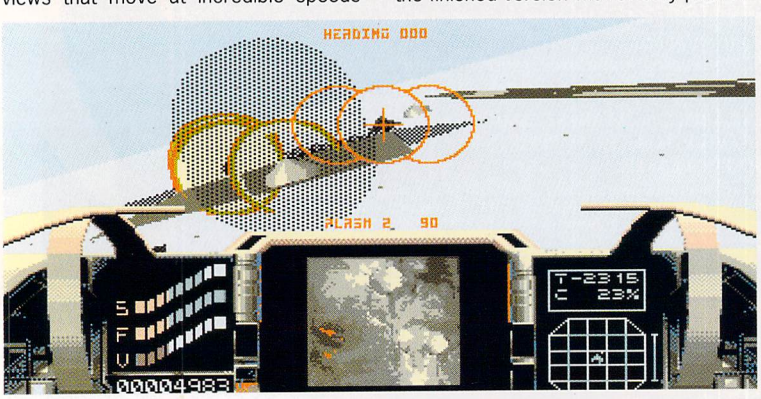
PLACES, ABANDONED, SOME

Where are all these games Electronic Zoo keep talking about? They seem to announce at least three a month, most of which never appear. Well, the next vapourwear game is called ***Abandoned Places,*** and it's an RPG – a Hungarian one at that.

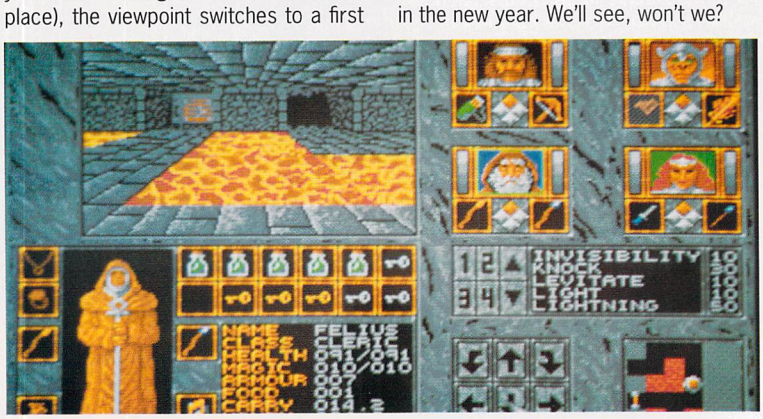
The plot has to do with monsters and silver lines in the sky. Wandering through a landscape composed of an inner (dungeon) and outer world, you have to rid the land of the evil sweeping over it –sounds just a tad like *Legend* on page 61, doesn't it? In a similar way to many other RPGs, *AP* has three sorts of sections to the game. As you wander between cities, you view your crew from above, with the landscape shown in all its animated glory. Then, when you enter a dungeon (or some similar place), the viewpoint switches to a first person perspective, just a little bit like *Dungeon Master,* actually. The third change takes place when you enter a city, which is displayed as a series of animated pictures, showing the nefarious inhabitants as they converse with / steal from / hit you.

The Zoo are playing the numbers game with *AP:* 60 different spells, 70 minutes of music (something to look forward to there, we're sure), 12 different dungeon types, hundreds of animated objects and "programmable" monsters (whatever that may mean) that plan their attacks carefully instead of throwing themselves wholesale at you. All this in a free 'n' easy environment where you can do whatever the hell you want, to anything you can find.

Abandoned Places is due out early in the new year. We'll see, won't we?



● **Destroying a generator on the planet's surface in *Epic* takes a lot of firepower but it's very satisfying to see it go up in smoke, accompanied by the digitised strains of Mars from the Planet Suite. Annihilation frenzy!**



● **Do not adjust your contact lenses: this shot only looks a little blurred because Felius the Cleric is using his invisibility power on the giant tarantulas you can't see in the top window. Well, you can't, can you? That proves it. Pretty good, eh?**

NO "IN PRODUCTION" THIS MONTH. FROM NOW ON IT'S *BITS*

Actually, it's *FORMAT's* usual comprehensive roundup of the latest games news from all over – just with a shorter, punchier title. As you can tell.

● Domark are planning ahead in a big way, again. Matthew Stibbe, game designer and co-author of *Imperium* and *'Nam 1965-75*, has set his sights on a game about ***Columbus,*** that bloke who accidentally bumped into America, to be released on the 500th anniversary of said event. It's played from both the national level (as you build a fleet, finance it and so on) and from the grass roots level (blowing other ships from the water in 3D). Details are still very sketchy 'cos the game isn't going to be released until October 1992. Even then it'll probably be a month late...

● ***Civilisation,*** the new PC god-game from *Railroad Tycoon* creator Sid Meier in which you influence the history of the world, will be converted to the ST, but not for a while yet. Likewise ***F117A Nighthawk Stealth Fighter,*** the sequel to *F-19 Stealth Fighter...*

● ***Sonic the Hedgehog,*** console star extraordinaire, is also on hold for a while – it's doing so well, Sega don't want to let the rights go. US Gold will definitely be doing the ST version. USG, not content with depriving ST owners of ***Eye of the Beholder,*** also have no plans to convert the sequel. Write to your MP, and USG too...

● ***Cybornetics,*** Millennium's strategy/ wargame, is finished, but won't be released until the new year when the port onto the Amoeba maims machine is done... ***Tip Off,*** the basketball simulation from Anco, should use the STE's extra features (hardware scrolling, stereo sound) if all goes well... ***Vengeance,*** the graphic adventure from the new Revolution Software exclusively previewed in *STF* 27, has had a name change. It's now called ***Lure of the Temptress.*** Tacky...

● ***Space Gun,*** the arcade shoot-'em-up conversion from Ocean, will be the first non-Trojan commercial game to use the Trojan Phazer light gun (£39.99, Trojan ☎ 0554 777993). More games for the gun are also on the way from Trojan...

QUEST 2: THE SEARCH FOR A HERO

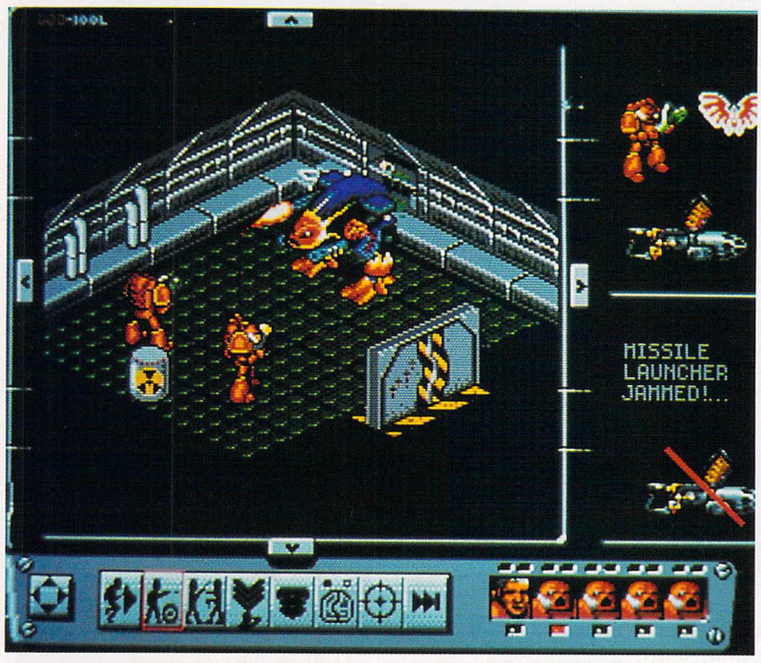
Hero Quest was a goodish board game conversion by Gremlin that did very well for itself in the charts. Now there's a sequel on the way called ***Space Crusade,*** which keeps the same play-by-turns board game style as its predecessor.

The setting is an abandoned spaceship which has been drifting around for many thousands of years, as abandoned spaceships are wont to do. It's been taken over by the forces of Chaos and only the Space Marines can purge it of its nastiness. It's about now that you wish you hadn't joined the Marines.

For each game a random mission aboard the ship is generated, with a specific goal to each. Your ST controls the aliens (including one massive mutha called the Dreadnought – not a nice thing to meet in a dark corridor) and you take control of a squad of four Marines commanded by, yes, a Commander. The weapons you take with you for each mission must be chosen carefully, because some are better suited to particular situations. It wouldn't be wise to use a photon grenade to destroy an alien next to a nuclear reactor, for instance. Whatever you choose, though, the weapons are not infallible and occasionally they may jam or explode.

Orders can be given to specific members of the party so they react to situations intelligently. The game world is viewed with an overhead *MegaTraveller* style perspective and the familiar *Hero Quest* 3D isometric view.

In all, expect *Space Crusade* to be an interstellar version of *Hero Quest,* with updated control methods and greater depth of play. It should be out in time for Christmas.



● **"Go on then, fire." "No, no, after you. You were here first." "Oh damn, now look what's happened. My missile launcher's gone and jammed. I'll just nip off and fix it." "This would never have happened with a Reeves and Mortimer missile launcher." "Oh shut up." The *Space Crusade* breaks down somewhat.**

OH, THE SHEER GAUL OF IT

French software house Loriciel are stepping up their release schedule for the ST. Next January, look out for ***The Golden Eagle: The Return,*** a *Prince of Persia* style arcade platform game. The main character's actions have all been digitised from film of real actors in much the same way as the characters in *Pitfighter,* so he moves incredibly realistically. Unfortunately the game itself doesn't look that original, with plenty of walking, shooting and collecting being the order of the day.

● Which of us hasn't longed for a paraplane simulation for the ST at one time or other? No, well, perhaps not. But you're getting one anyway courtesy of Loriciel, called, with savage wit and cutting satire, ***Paraplane.*** Quite why anyone would want to simulate such a little-known sport is beyond us, though I suppose you have to admit it has a certain novelty value. Paraplaning involves you sailing down the side of a mountain dangling from a parachute-type contraption, being blown by the wind and rain. (Voluntarily, too.) At the higher levels you also have to avoid houses, clouds (why?) and even planes; race against another opponent or the clock; and land too.

● And there's yet another racing game too, this time involving motorbikes. It's endorsed by Thierry Magnaldi, the, er, famous bike racer. So what's it got to offer that we haven't seen a hundred times before? Smooth graphics (it says here): 70 different animations for the bike alone, running at 25 frames a second (half the maximum ST screen frame update rate). Two player option via a split screen. Indoor and stage-by-stage cross country races. In two words, not much.



● **Hautement dangeureux et cher, vous aurez sûrement des problemes à la finde la journée – mais essayer tout de même de le traduire en Français, ce quin n'est pas facile. C'est comme le parachute-ascencionel questionnez Loriciel. (Merci, Eleonore. This 1992 business holds no terrors for *ST FORMAT!)***

TEN PREVIEWED GAMES THAT STILL HAVEN'T ARRIVED



1 ***Alcatraz*** **from Infogrames. Previewed in *STF* 23 but nowhere in sight yet, and guess why? Programming difficulties. It's not been forgotten completely, honest. There are people tying yellow ribbons to trees all over Binghampton.**



2 ***Aquaventura*** **from Psygnosis. Previewed years ago, this must set the record for the longest-delayed game in ST history, probably. Extensive changes have been made, but the Psygs haven't given up on it completely.**



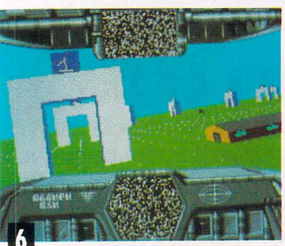
3 ***Billy the Kid,*** **a hardened culprit from Ocean – er, make that *not* from Ocean. They've given up making excuses as to the whereabouts of this one, in the hope that everyone will forget about it. We haven't. Where is it, Ocean?**



4 ***Deuteros*** **from Activision. Okay, so Activision have quite a good excuse (going bust) but the game itself has been finished for several months. Let's hope they manage to get the game out before leaving the ST completely.**



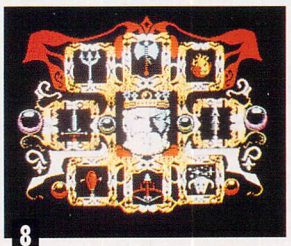
5 ***Dominion*** **from Pandora. Where'd it go? Previewed in *STF* 23, it still hasn't surfaced. Considering the trouble Pandora had with *Début*** **(it cost so much to develop that there wasn't enough left to market it), it's not all that surprising.**



6 ***Duster*** **from Mirrorsoft. We reported in issue 24 that it was going to be delayed even longer since Rowan Software had joined Realtime, the original programmers, to get the thing finished. Six months later we're still waiting.**



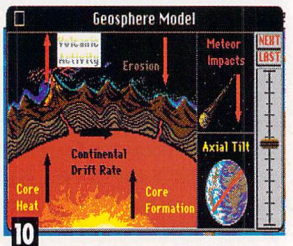
7 ***Epic*** **from Ocean, another non-surfacer featured in issue 23. First announced over a year ago, the game seemed to have disappeared in between. But now it's almost here – see the main story on page 16. Is that an epic feat or what?**



8 ***Gauntlet 3*** **from US Gold. We almost had it in our grasp a while back, but what we saw was only an unfinished version with no sound. And now US Gold are being very coy about releasing it. Dare we hope for next month...?**



9 ***Midwinter 2*** **from Microprose. (Well, actually not – we finally saw it in *STF* 26, where it earned *FORMAT* Gold! Still, it had to be here for old time's sake – and to show that there may be hope after all for the other nine we're waiting for...)**



10 ***Sim Earth,*** **also from Ocean. A major preview back in issue 20 has been followed by months of silence from Ocean. Yet again, programming difficulties have been cited, but the game will definitely be out next year. Maybe.**

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stereo MASTER

When you are considering purchasing a sound sampler there are several to choose from. Why compromise? Your choice should be the new full featured STEREO MASTER for the Atari ST range of computers. The package that gives you more extras than a M series BMW. By purchasing this state of the art product, which combines a quality sampler with the expertise of over ten years of software programming, you are purchasing a top quality product in the knowledge that it is not only compatible with existing Microdeal products but will also be with future ones.

What is Stereo Master?

Stereo Master is a low cost, high quality sound sampler for the Atari range of computers. The sampler cartridge enclosed in the package plugs into the ROM port at the side of the computer and allows you to analyze the sounds, coming in, change the way they sound using realtime special effects or record them from devices such as personal cassette players, Compact disc players etc. Once in the computer STEREO MASTERs unique editor will enable you to edit the sound in practically any way you can imagine. Once you have the sound sample how you want it, you may incorporate it into other programs such as Quartet or play it using routines supplied for many of the commonly available BASIC's.

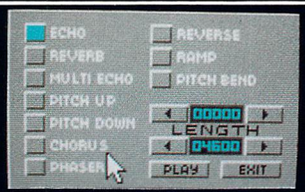


THE MAIN EDITOR SCREEN

The Sampling Software

Includes many features you would expect to find in a professional editing suite;

* Realtime playback ghost cursor marker
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* Mix sample with full or half volume
* Shrink by 33%/50% by drag or wipe
* Fade in/out with selectable degree of fade
* Filter sample with hard/soft filter
* Full editting and control facility for Left/right channels
* Hifi Stereo playback option through PLAYBACK cartridge
* Record Frequency from 3.0 to 27.9 Khz in ST mode
* Record Frequency 6.25, 12.5 and 25K in STE mode
* Bounce sample
* Decrease Volume
* Increase volume
* Trigger recording
* Loop sample
* STE Volume,Bass & Treble control
* Clear Left/Right samples
* Selectable trigger volumes
* Paste sample (using buffer)

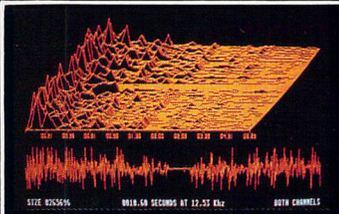


REAL TIME SPECIAL EFFECTS MENU

The Special Effects Software

For the first time ever you can emulate sound effects in real time, just like the sound labs can for film studios, normally the hardware to produce these effects would cost many times more than this package. Features on the FX menu include;

* Built in realtime special effects including, Echo, Reverb, Ramp, Pitch up/down, Multi Echo Chorus, Phaser, Reverse and Pitch Bend.
* Parameters of FX can be modified to provide 1000's of different effects.

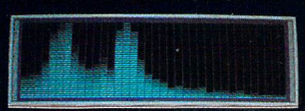


3D DISPLAY OF SAMPLE

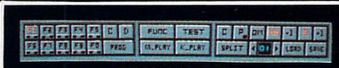
The Analytical Software

A whole host of pro-type analytical functions include;

* 3D display of sample frequencies (Fast fourier transform)
* 3D display also includes 2D envelope display plus sample information
* Built in realtime spectrum analyzer
* Stereo Oscilloscopes with trigger markers



36 BAR SPECTRUM ANALYZER



THE MIDI CONTROL PANEL

The MIDI Software

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* Omni/Poly operation
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There's so much in it! Chris Lloyd talks you through the Cover Disk

ON THE DISK THIS MONTH

SIDE 1

POPULOUS 2 – Play god in a playable demo of Bullfrog's masterpiece.

BABY JO – Be unbearably cute and bouncy with a playable level of Loriciel's new baby.

DIVERT – Fool your ST's disk accessing with this really jolly useful utility.

SIDE 2

ENTOMBED – Tombs, tricks and traps. A complete platform game.

***STOS* DEMO** – Be dazzled by this hypnotic graphics demo and find out how it's all done.

MIDI FILE – A complete MIDI song from Hands On MIDI Software. Groovy.

RENAME – Customise your files and folders. Go on, be different!

STEREO REPLAY – High res resource file for last month's demo of Microdeal's stunning new stereo sampler.

RAILROAD – Get *Railroad Tycoon* working on STs with over 1MByte.

Stop! To protect your precious Cover Disk, write-protect it and back it up now! Just follow the steps opposite.

POPULOUS 2

BY: BULLFROG
SIDE: 1
MACHINE: ALL STS
RESOLUTION: LOW ONLY
FOLDER: POP_2
FILES: POP_2.PRG
GET STARTED WITH: POP_2.PRG

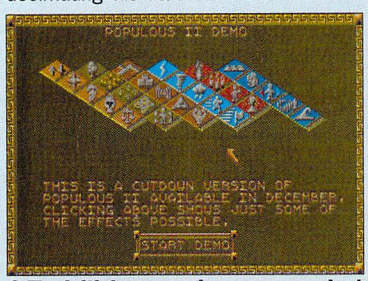
There can't be many people who haven't at least heard of *Populous*. It was hideously addictive and started a fashion for god-games. No laurel squashing for Bullfrog though, they've been hard at work on building a better world for you to play big cheese of. This sneak preview gives you a whole world to play with, but only a limited time to get the better of your opponent by nurturing your own blue people and decimating his little red men. Fail and you wind up back at the beginning again.

You play the part of one of two gods, each with his own worshippers. The more worshippers, the more powerful you get, so you need to look after them. The people lead lives all their own, wandering about, building houses and multiplying. Your first step is to give your people nice flat land to settle on. Select the People icon and click on the first option, which is two little arrows. The mouse now turns into a pointer and two little arrows as well. You can now click on the landscape. Use the left button to raise it and the right to lower it.

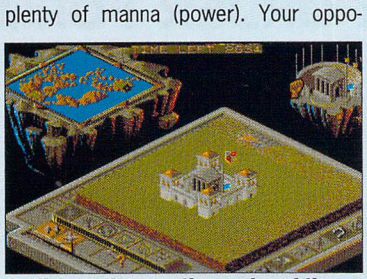
Give your chaps plenty of flat land and they soon build up some impressive looking buildings and get stronger. Make your opponent's land unfriendly by covering it with hills or lowering it into the sea. Watch out, though, because the ST-controlled god of the red people is trying to do the same back to you.

After a while you should have built up a reasonable population and gained plenty of manna (power). Your opponent the red god probably has too, so get in there and give him a disaster or two to cope with. This *ST FORMAT* Cover Disk version enables you to unleash columns of fire, whirlwinds, storms and, er, trees. No, really. These grow out of the ground upsetting buildings and generally making life tedious for the locals.

The original *Populous* was a smash hit and ushered in a wave of arcade-type god games. *Populous 2* is even better, so get the demo up and running and start practising that deep voice!



● The initial screen gives you a peek at the 36 different possible effects in *Populous 2*. You can get really nasty, creating everything from swamps to a rain of fire. This special *ST FORMAT* demo has been squeezed to run on a 520ST. If you see little black lines every now and again it's because some graphics had to be left out. Sensitive souls might prefer being spared the gory effects anyway...



● Click on the questionmark and then select a building or character. Its strength is displayed in the colosseum, including the current weapon used.

FALLING UNDER THE

***Populous 2* is completely mouse-driven. From an omniscient vantage point, the god of the blue people (that's you) simply clicks with his/her/its celestial rodent on the heavenly icons ranged around the borders of the known universe.**



● The overall map of the world. Clicking on this with the left button scrolls you about. Click somewhere with the right mouse button and you move straight there, or hold it down and you can scroll around the entire landscape. The little arrows at the edge move you about as well.

● This row of icons gives you access to the six different sets of effects – people, vegetation, earth, air, fire and water.

● This red bar shows you your current manna strength. The more manna you have, the more effects you can throw around.

● The effects available for each group.

EVERYTHING YOU *REALLY* NEED TO KNOW BEFORE YOU BEGIN

Protection is better than purée

To keep your Cover Disk absolutely safe, keep it write-protected by moving the little black tab so you can see through the hole. Nothing can now be written to your Disk, so there's no chance of you accidentally writing over or deleting any precious data. This also keeps you completely safe from viruses. The Disk is guaranteed virus-free, so don't take any chances.

Read Me, Read Me!

Space on the Cover Disk pages is limited, so you may often find text files on the Disk with more information. These have the file extender .DOC – the three letters after the full stop. It's always a good idea to read these for more information on the program. Just double-click on them and select Show to display the text on-screen.

Back Me Up!

To keep your prized Cover Disk safe you should back up the disk, so if anything should go horribly wrong you've still got the original.

Because of the special disk format you can't do a direct disk to disk copy – you can't just drag the Floppy Drive A icon over the Floppy Drive B icon. So here's what you do. Each Cover Disk holds nearly 800K of goodies, so you'll probably need two blank disks to copy everything onto. Take a freshly formatted disk and copy across all the files, as follows.

❶ Remember to write-protect the Cover Disk first. Put the Cover Disk into drive A. (If you're lucky enough to have two drives, put your back-up disk into drive B. If not, just carry on.)

❷ Double-click on the drive A icon to open up a window. Now drag one of the folders to the drive B icon. If you have just the one drive, your ST tells you when to swap disks.

❸ Repeat this with all the folders except the SIDE_2 folder. When you get to this one, double-click on it to open it up and drag the folders from inside it to the drive B icon.

❹ Keep copying folders like this, one by one, until your ST tells you there isn't enough room left on the new disk. When it does, re-copy the last folder (the one you were copying when you got the "disk full" message) and all the remaining folders onto your second blank disk. Job done!

● **Note** that some programs on some Cover Disks may need to be copied out of their folders – like *Baby Jo* (overleaf). Follow the instructions for that program and you'll be okay.

Still Single?

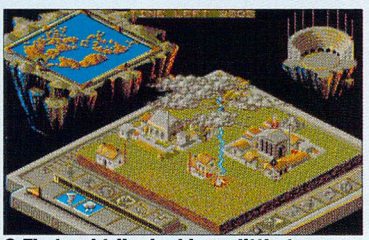
ST FORMAT uses a rather clever disk format (invented by whizzo disk doctor Rob Northen) which can be read by both single and double-sided drives. If you can open other folders but your ST grumbles about damaged data when you try to open the SIDE_2 folder, then you have a single-sided drive. These were fitted to early 520 STs and are rapidly becoming obsolete. Replacement drives are cheap and easy to fit. Time to upgrade, perhaps?



● **Er, I wouldn't go swimming just yet. If a whirlwind passes over water it creates these nasty little things which eat away at the land. The attack of the killer whirlpools!**

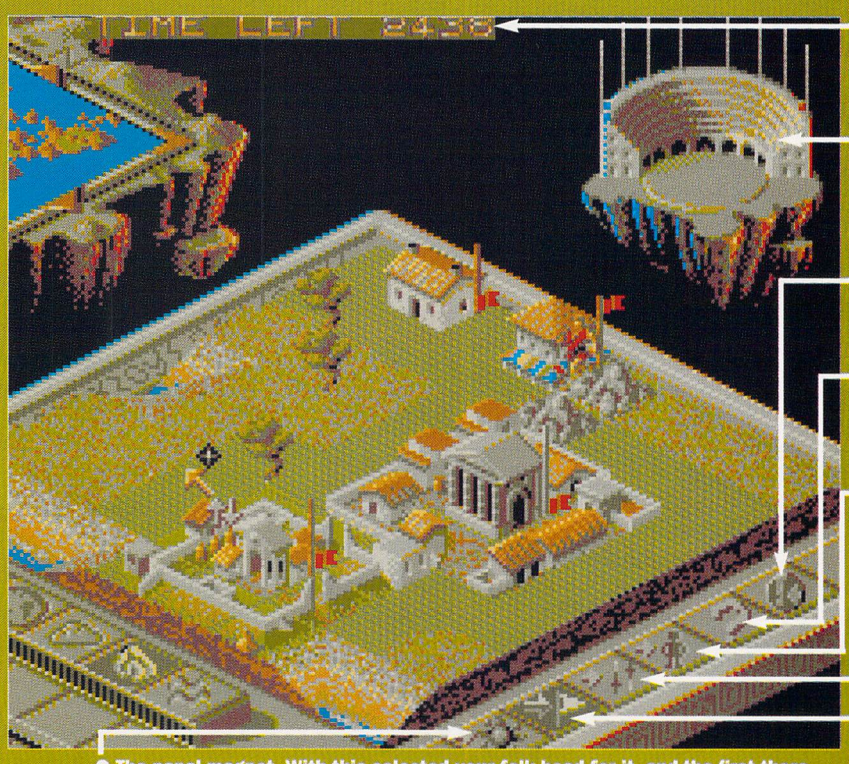


● **Take that, you fiend! The fire column does its stuff on your opponent's folk. Any people caught by it are turned to ashes and their homes burnt to the ground. Vengeful lot, these gods!**



● **That red tribe looking a little too well? Try the storm effect. A mass of dark clouds appears and rain begins bucketing down on them. This god stuff can go to your head.**

INFLUENCE OF THE GODS



● **This preview only allows you to play god for a while, alas. You can see the time remaining here.**

● **The colosseum shows you the relative strength of your population. Any building or character selected with the information icon appears here.**

● **Global options. From here you can change the main game settings.**

● **Click here, then select a building or character for more information on its strength.**

● **Get your people to join up if they meet to make stronger characters, otherwise settle.**

● **Makes your population into a nasty bunch – they attack the enemy when they meet, but otherwise they settle.**

● **This sets "Settle mode." Your bods settle down, build homes, get themselves mortgages and start shopping for furniture together.**

● **The papal magnet. With this selected your folk head for it, and the first there becomes leader. In this demo both magnets are set up in the middle of the world.**

BigEye *STOS* demo

BY: CHRIS LLOYD

SIDE: 2

MACHINE: ALL STS

RESOLUTION: LOW ONLY

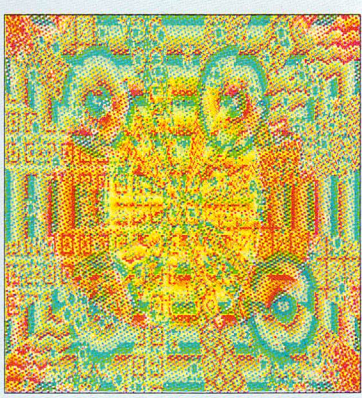
FOLDER: STOS

FILES: STF_EYE.PRG, STF_EYE.BAS AND 7 MBK FILES

GET STARTED WITH: STF_EYE.PRG

This demo writing stuff isn't so hard really. Open up the STOS folder on side two and double-click on STF_EYE.PRG, then sit back and relax.

The graphics demo runs for a couple of minutes before going back to the start again. After you've fried your eyes for a while turn to page 106 for the inside on how it's all pieced together. It's not half as difficult as you imagine. If you're a *STOS* BASIC programmer – or just unconscionably curious – then you can have a good rummage through the source code, also on the Disk.



● **We are all one, part of an infinite and universal vibration that transcends the barriers of perceived reality. The only constant is change and our own existence is merely a state of transition – er, what time did you say it was again?**

Baby Jo

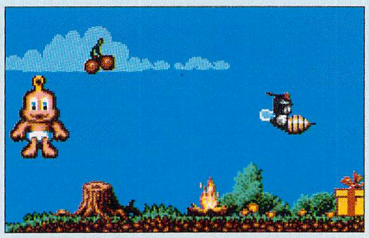
BY: LORICIEL
SIDE: 1
MACHINE: ALL STS
RESOLUTION: LOW ONLY
FOLDER: BABY_JO
FILES: BABY_JO.PRG + 36 data files
TO GET STARTED: SEE BELOW

He laughs when he finds something he likes, cries when he gets hurt, sucks his thumb when he's bored and burps after every meal. Still, that's computer journalists for you. And amazingly, it's also the main character in this ever-so-cute platform game from Loriciel.

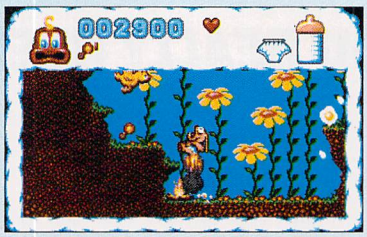
Baby Jo is – er, a baby, and he's lost, far away from home and his mummy. It's down to you to guide him home past all sorts of nasties, stinging wasps, carelessly unattended campfires and fridges that fall out of trees...

You need to keep him well-fed and change his nappy, because otherwise he gets very slow. There are power-ups and bonuses to collect as you jump about the surreal landscape. It's all joystick-controlled – move the joystick up and you jump, move it left and you move left, move... well, you can guess the rest. Our Cover Disk demo is a complete level of hectic bouncing and collecting. There's no time limit, but you've only got three lives – and surviving is not as easy as you imagine!

● **Note** that you can't run the demo directly from the Cover Disk. Get hold of a blank disk and copy all the files inside the BABY_JO folder onto the root directory of your blank disk – that is, not inside any folders. Then double-click on BABY-JO.PRG. Don't write-protect your copy – that is, leave the little black tab closed – 'cos the program writes your high score to disk and sulks if it can't do it. From the loading screen, use the joystick to select which language you prefer, then press the <Fire> button and up comes another loading screen. Hit <Fire> again, select Play and away you toddle.



● **Just look at the expression on his little face. *Baby Jo* is dangerously cute and he doesn't look anything like Winston Churchill.**



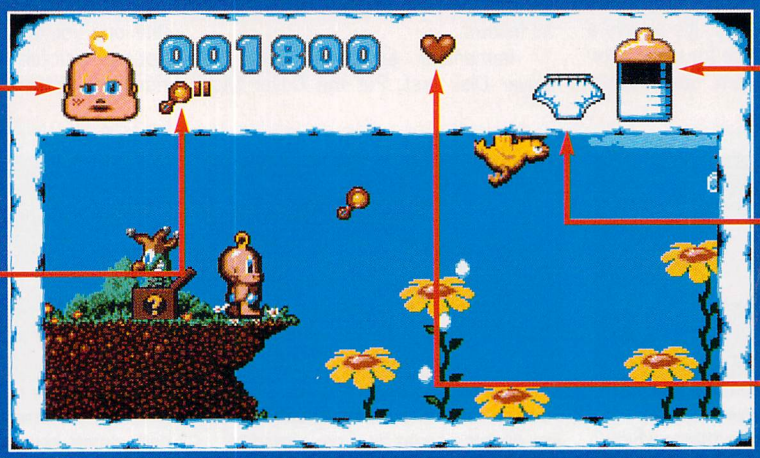
● **The main character is animated using dozens of sprites. Here's the my-god-my-nappy-is-on-fire sprite showing what happens when, er, a nappy catches fire.**



● **It's all too much! The flowers are spitting at you there are nasty wasps and everything and you're going to sit down and sulk okay?**

A GA-GA WEE OO-AA GI (or words to that effect)

Baby Jo isn't very good at talking yet, but he's quite good at recognising pictures, so the screen display gives you all the information you need. Here are some of his favourites.

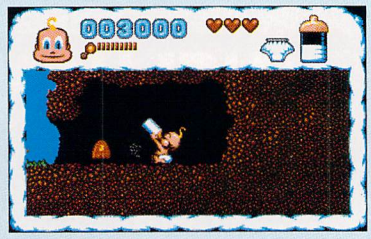




● **Wheee! Occasionally you come across helpful balloons to hitch a ride on. Jump up and grab the string and away you float. This enables you to reach places you can't jump to, but you have no control over where you drift.**



● **Oh no, it's all going horribly wrong! You've got only one life left, you're almost out of food, your nappy needs changing and there are horrible wibbly wobbly worms everywhere! Whaaaaaaaaaaa!**



● **Early on is a hidden cave with all sorts of goodies. Jo gets stuck into the milk with a satisfying glugging sound. The cape gives him limited invulnerability – he flashes pink for a while and nothing can hurt him.**

Divert

BY: STUART COATES
SIDE: 1
MACHINE: ALL STS
RESOLUTION: ALL RESOLUTIONS
FOLDER: DIVERT
FILES: DIVERT.TOS, DIVERT.DOC, DIVRTOFF.PRG, DIVRTON.PRG
GET STARTED WITH: DIVERT.TOS
READ: DIVERT.DOC

Imagine the scene: you want to run some software from drive B or your hard drive, but every time you run the program it goes straight to drive A looking for .RSC or data files that aren't there. This is because the program is set up to access drive A directly, and there is nothing you can do about it – that is, until now.

Divert is a very clever little beast which intercepts the drive accesses at GEMDOS level and redirects them. You can set up your ST so that every time software looks at drive A it is redirected to drive C or somewhere else. Just the ticket for hard drive owners or anyone who wants to store data in a RAMdisk.

To get started, just run the DIVERT program and enter the drive you wish programs to be diverted from and where you're going to send them to instead. When you want to run a program that does need to access Drive A, say because you've got the appropriate resource file on a floppy in that drive, you can switch *Divert* off and on again by using the DIVRTON and DIVRTOFF programs. Just have a butcher's at the text file DIVERT.DOC on the Disk for more information.

Divert is Shareware, which means the author doesn't get huge royalties from a software house which promotes his program – instead, he is relying on you to contribute for his hard work and effort. So if you make use of the program, how about registering it? It costs you only £10, and for your dosh you get a free update and technical support. Send your tenner to: Stuart Coates, 9 Links Road, Kibworth Beauchamp, Leicester LE8 0LD.

Railroad

BY: RANDY MEARS
SIDE: 2
MACHINE: 2 AND 4MBYTE STS
RESOLUTION: ALL RESOLUTIONS
FOLDER: RAILROAD
FILE: RAILROAD.TOS

Microprose's *Railroad Tycoon* needs a 1MByte machine to get going, being such a heavyweight of a game, but unfortunately a technical cock-up means it can't run on an ST with *more* than one meg. Inside the RAILROAD folder is a handy little program which reconfigures your multi-megabyte ST into a 1MByte machine. Problem solved! Neat, eh?

→



Image Power

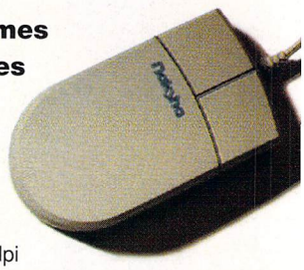
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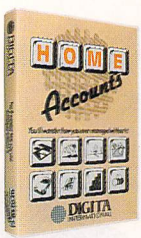
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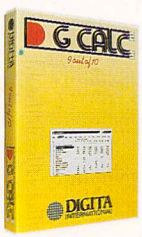
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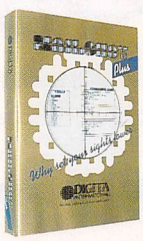




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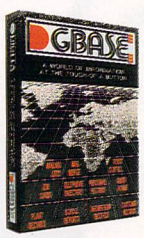
DGCalc
This fast, simple spreadsheet includes many advanced features, including a windowing facility, so that you can look at different parts of the spreadsheet at the same time. **£39.99**

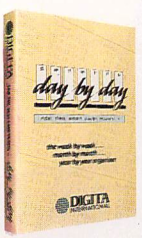




Mailshot Plus
If you ever need to send out mailings or print labels, this program is for you. Animated labels appear on-screen as a continuous sheet, allowing you to scroll backwards and forwards. You can search, sort and detect duplicate labels, print side by side and much more. **£49.99**

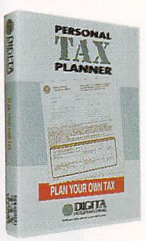
DGBase
If you're looking for fast access to information, and the ability to create customised reports, then this relational database is for you (ST). **£49.99**

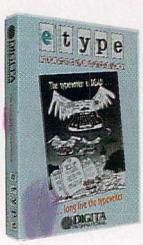




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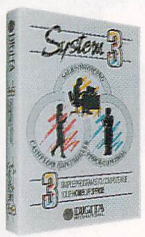
Personal Tax Planner
Plan your own tax with ease. This simple program will calculate your income tax liability, allowing you to perform instant 'what-if' calculations and produce pertinent facts about your tax position. A professional version is also available for accountants and financial advisers. **£49.99**



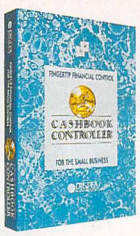


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Transform your computer into a type-writer. Because text is printed instantly, you can line up your form, press return and space a few times to move to the correct place, and then start typing. Ideal for filling in forms and envelopes. **£39.99**

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A suite of programs which perform all the basic functions for a small business. They may be used independently or integrated and include Cashflow Controller, Stock Control and Invoicing and Statements. **£59.99**

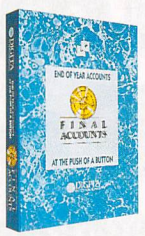


System 3e
Like System 3, but with extended capacity for customer accounts and stock items. **£79.99**

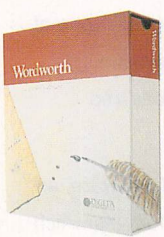


Cashbook Controller
Take the drudgery out of book keeping as this program will replace your cash and petty cash books. In addition to recording cash, bank and VAT transactions, you can enter credit sales and purchases, and for all these entries the program will automatically complete double entry routines, to ensure your records are always in balance. **£59.99**

Final Accounts
Using the information created with Cashbook Controller, this program will produce a complete set of accounts, including Trial Balance, Trading and Profit and Loss Account, Balance Sheet, as well as useful accounting ratios. **£39.99**



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Entombed

BY: NICK CONCANNON
SIDE: 2
MACHINE: ALL STS
RESOLUTION: LOW ONLY
FOLDER: ENTOMBED
FILES: ENTOMBED.PRG, ENTOMBED.DOC
GET STARTED WITH: ENTOMBED.PRG
READ: ENTOMBED.DOC

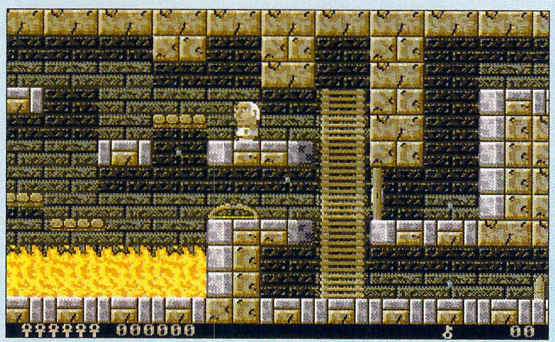


● **Help! To open that door you're going to need the bow, then the quiver, so you can shoot the urn which holds the key.**

***ST FORMAT's* exclusive** assembly programming series, written by hit game-makers Bullfrog, certainly inspired reader Nick Concannon from Cheshire, 'cos he sent us this little cracker. It's his first attempt at assembly coding, and he says he worked on it for over four months using *Devpac 1*. You play the part of Ya Salam, a tomb builder. It's a pretty good job, except that the tombs need testing to make sure all the traps work. If you survive you get the admiration of the pharaohs and the chance to build a new tomb. If you don't, well, you're dead, aren't you?

To get started, open up the ENTOMBED folder, double-click on ENTOMBED.PRG and press the <Fire> button on your joystick. It's all joystick controlled: up for jump, left to go left and, well, it's all very simple. You can tackle any one of the first four tombs, but must complete all four before the really difficult fifth one.

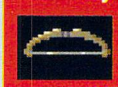
Along the way you find various icons to help you. If anything starts flashing it means something's going to change soon, so get ready. Pressing P pauses the game. The traps and puzzles are dammed tricky and need dexterous joystick work, timing and a bit of logic. Think you're up to the challenge? Get that disk in the drive and have a bash! And for some insights into how it's done, check out the Bullfrogs' assembly programming series in *STF* issues 21 – 27. If you missed any of these, don't despair – just turn to page 142 for the *FORMAT* back issue service.



● **All right, clever-clogs, how would *you* reach the bow, then? This is one of the early puzzles in *Entombed* and it's a ticklish one. Passing one of those buttons on the wall activates a trap – often a set of spikes shooting from the stonework. Nasty, that.**

HIEROGLYPHICS I HAVE MET

These Ancient Egyptians wrote using little pictures. They even had one for "Only ten more points would have got you on the high score table."



BOW – Before you can shoot things you need this. The more you collect, the greater your shot power.



COINS – These just give you extra points, and what do points make? Er, a higher score?



CHEST – Might be something worthwhile inside – or not, as the case may be.



QUIVER – Got the bow? Good, now you need arrows.



HOURGLASS – Collect these to give you extra time to stop tomb changes. Use the number keys to activate them.



ANKH – Gives you an extra life.



KEY – Collect these to open doors and chests.



URN – Fire arrows at these to open them up.



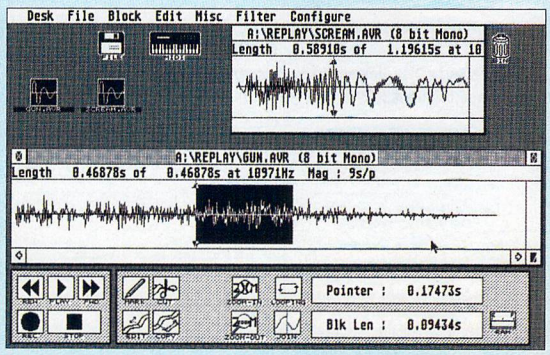
STATUS BAR – from left to right : lives left, score, bows collected, arrows collected, keys collected and seconds collected to delay tomb changes.

Stereo Replay high res resource file

BY: MICRODEAL
SIDE: 2
MACHINE: ALL STS
RESOLUTION: HIGH ONLY
FOLDER: REPLAY
FILES: EDITOR.RSC
TO GET STARTED: SEE BELOW

Last month's Cover Disk featured a demo of Microdeal's groovy stereo sampler/editor – the first to offer true stereo on all STs. If you're one of the lucky ST owners with Atari's high resolution mono monitor, this month is your lucky day (or something like that). Inside the REPLAY folder on this issue's Cover Disk you'll find the resource file that enables you to use the demo with your mono monitor.

To use it, copy across EDITOR.RSC to your back-up copy of the *Replay* demo. Don't try to add it to last month's Cover Disk – for a start, there's no room! Make sure it's in the same level as the editor program EDITOR.PRG, not in any other folder, and Bob is indeed your rather musical uncle. Of course, you do need last month's Cover Disk, so if you missed that issue you'd better rush to page 142 and order yourself a copy fast!



● **Like most serious ST software, Microdeal's *Stereo Replay* looks a lot better on Atari's super crisp high resolution mono monitor. The resource file on this issue's Cover Disk enables you to use that program with a mono monitor. Coincidence? Uncanny, I call it.**

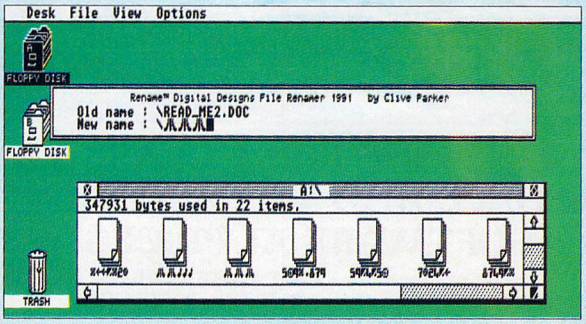
Rename

BY: CLIVE PARKER
SIDE: 2
MACHINE: ALL STS
RESOLUTION: ALL RESOLUTIONS
FOLDER: RENAME
FILES: FOLDER™.ACC, RENAME™.ACC, SELEKT™.ACC, READ_ME.DOC
TO GET STARTED: SEE BELOW
READ: READ_ME.DOC

Ever looked at the files on a disk and wondered how they get all those funny characters in the filename? The programs *Rename™* and *Folder™* enable you to use any character in a file or folder name. You can get at the whole of the ST character set by using the <Control> and <Alternate> keys along with the usual keyboard keys.

In the RENAME folder are three rather smart little Accessories. Your ST can load in up to six of these programs when it boots up. They need to be in the root directory of your boot disk – that is, not in any folders. Copy the three ACC files to a blank, formatted disk and boot with that disk in the drive. You can then use the Accessories via the Desk menu on the menu bar.

Be careful though: only rename backup copies of things first. Remember your ST uses the file extender – the three characters in the filename after the full stop – to identify what sort of file it is. Programs don't like having any of their data files changed either. One last safety tip: don't put question marks in folder names – it confuses your ST. Apart from that, experiment! You can give disks a whole new look. The last little Accessory is *Selekt,™* which brings up the fileselect box from the menu whenever you need it.



● **With *Rename* you can give your files all sorts of funny names. First select the file to be changed with the fileselector and type in those weird ones. Your ST has all sorts of odd symbols tucked away in its character set. You can get at the Atari symbol by holding down <Control> and using O and N.**

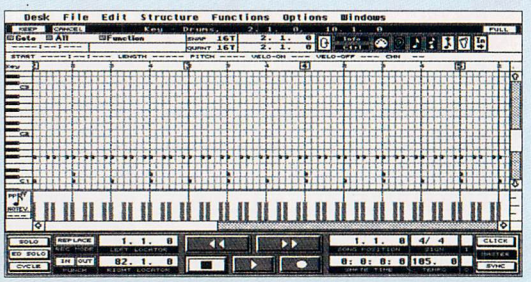
MIDI File

BY: DAVE CLACKETT
SIDE: 2
MACHINE: ALL STS
FOLDER: MIDI
FILES: HANDSON.MID, MIDI.DOC
TO GET STARTED: SEE BELOW
READ: MIDI.DOC

Got a MIDI setup? Quick, set it up! Hands On MIDI Software have given you a full 12-track MIDI song file to listen to and play around with.

MIDI is short for Musical Instrument Digital Interface – the standard system that enables your ST to talk to any MIDI instrument. Your ST is equipped with MIDI ports built-in. All you need are a couple of leads to connect it to your MIDI synth, plus a sequencer program and your ST can take control. What do you mean you haven't got a sequencer?

There's one stuck to the front of this month's blimey-it's-got-two-disks-stuck-to-it *FORMAT*. The special supplement has all you need to know about using *Sequencer One*, but if you're curious about the people who produced this MIDI file turn to the special Hands On feature on page 85.



● Part of Hands On's MIDI file drum track – a closed high hat with a triplet feel (it says here). Load the file into *Sequencer One* and see what makes it syncopate!

THE COVER DISK NEEDS *YOU*

We need *your* software – games, utilities, demos – anything good, original and short. If you've written anything worthy of the *ST FORMAT* Cover Disk, send it with this form and full documentation to: Chris Lloyd, *ST FORMAT* Cover Disk Editor, 30 Monmouth St, Bath, Avon BA1 2BW. Then please be patient: we get heaps of submissions, and we try to give them all a fair testing!

Name _____

Address _____

_____ **Daytime phone** _____

Program title _____ **Total size in K** _____

On a separate sheet, explain concisely what the program does and what's great about it.

Don't forget to: ● Include on-disk and paper documentation ● Write your name and address on the disk ● Use a virus-free disk ● Keep a copy of your program, because contributions are non-returnable ● Enclose wads of cash. We pay for programs we use, but hey, we can use the dosh!

Please sign the following declaration: This program is submitted for publication in *ST FORMAT*. It is wholly my own work and I hereby agree to indemnify Future Publishing against any legal action should copyright problems arise.

Signed _____

PROBLEMS? FRET NOT!

Every month we duplicate tens of thousands of disks. Inevitably a few are corrupted – you can't open a window at all, or there's nothing in the window, or the folder names are gobbledegook. And it's jolly annoying if it should happen to you. If you're unlucky, sorry. We guarantee you a free replacement. Just send your disk to: *ST FORMAT* January Disk Returns, Discopy Labs, Unit A, West March, London Road, Daventry NN4 4SA.

***Note* that only Discopy can help you – please don't send faulty disks to us.**

● Got a problem with one of the Cover Disk programs? Make sure you've read all the relevant Cover Disk pages and any document files on disk. Try consulting your ST Owner's Manual – that might have the information you need. Still got a problem? Then give us a ring on the *ST FORMAT* Cover Disk Hotline. We'll do our best to sort it out. When you ring, make sure you have your ST nearby, tell us the number of the Cover Disk and which program is giving you trouble.

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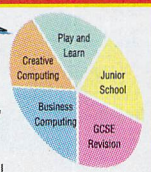
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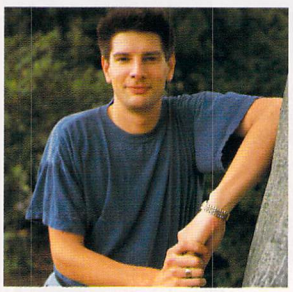
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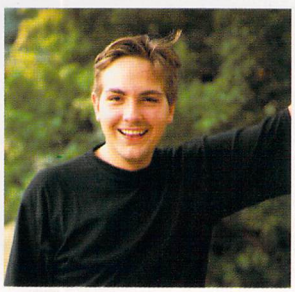
SCREENPLAY

This Christmas, while you're blithely enjoying your pressies, spare a thought for the huge number of people that will be *ruthlessly, callously, barbarically* slaughtered on your ST screen in the cause of games entertainment this Yuletide. But, hey, don't let it get you down, okay?

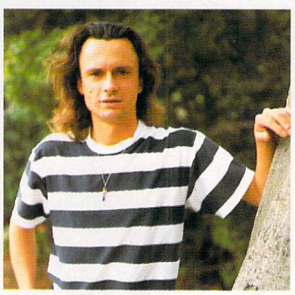
The *ST FORMAT* reviewers: so overcome by this month's games that not one can stand up unaided



NEIL JACKSON
Neil's recipe for Eggs à la Jackson has been banned in nine countries. He's currently working on a Japanese musical version of *Guns of Navarone.*



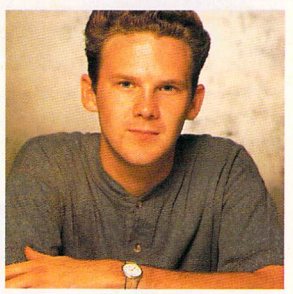
JAMES LEACH
James was actually spontaneously generated during an episode of *The Man From UNCLE,* and for several years played one of The Persuaders.



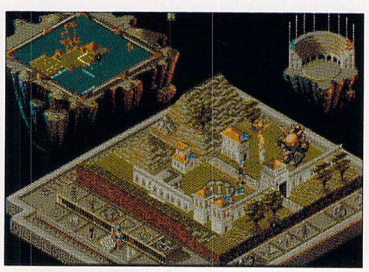
CHRIS LLOYD
Chris is a man of many parts, which is why he's currently helping the police with their enquiries. He can recite the whole castlist of *Casualty* backwards.



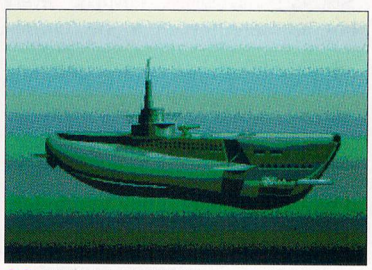
ED RICKETTS
Ed was once a member of the Osmonds. His hobbies are falling off tall buildings and making obscure references to the African mainland.



ADAM WARING
Adam is the founder member of the Society for Whole Numbers, dedicated to stamping out all fractions in their many and varied forms.



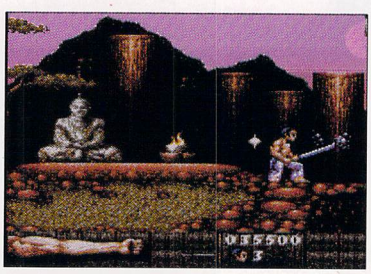
30 POPULOUS 2
It's *big,* it's *got little people in it,* and it's *here.* It's the most talked-about game since *A Night with Ken Barlow.* It *inspires more italics* than any other game released in a month beginning with J. *Populous 2:* not just a game, more a way of hype.



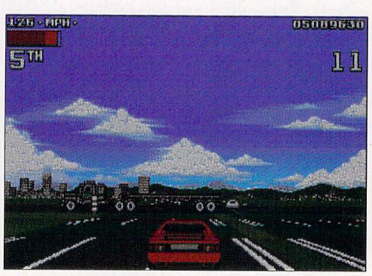
38 SILENT SERVICE 2
What is it with ship/submarine sims lately? We've got three of the blighters this month. It's not as if submarines are hard to control – just up, down, forward and back, surely. Remember, sunbathing on deck is not recommended.



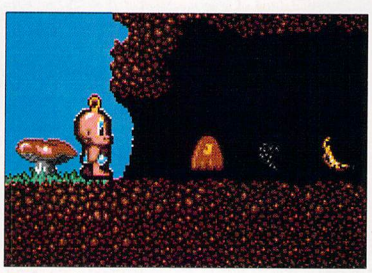
42 BEAST BUSTERS
Really messy with zombies round, innit? All those intestinal juices and severed limbs, that plasma and rotting flesh cluttering up your house. There is a solution: you could try not shooting them with a pump-action repeating rifle. But then it's just no fun.



36 FIRST SAMURAI
In this week's Japanese lesson we learn how to shout "Now you must die, stupid adversarial person" and "Just finish me off sharpish, mate." But first, how about trading in that old shuriken for one of these brand new Reeves and Mortimer models?



42 LOTUS TURBO CHALLENGE 2
To the right we have a startled spectator whose foot you have just missed by three inches. Straight in front of us is a brick wall, which it is advisable not to hit. Please swerve now. Thank you. I'm afraid you've failed your driving test for being terrible.



40 BABY JO
The latest in dress-up dolls, Jo comes with a handy hook on his head so you can hang him up, and you can dress him in mushrooms, bananas or – hang on, that's not right. That's not a hook, it's a cute wisp of hair – and he's not a doll... *it's alive!*

SCRUTINISED THIS MONTH

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STF REVIEW POLICY

- It is *ST FORMAT* policy to review only finished games – that is, the games you could buy in the shops – never incomplete or demo versions
- We review *all* games released, but *only* when they're finished. We won't be rushed into reviewing unfinished games to beat our "competitors"

● *UTOPIA* – GREMLIN'S INSIDE TIPS ● MORE *MEGA LO MANIA* ● BEAT *DISCOVERY XTRA* GAMES ● KILL *CYBERCON 3* ● PAGE 67

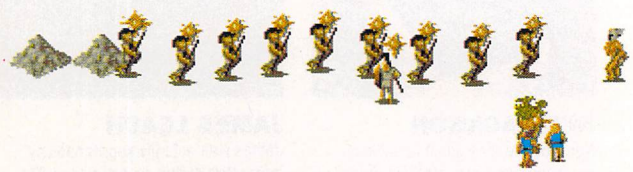


● The full screen view is an excellent way to get a better idea of who's doing what to whom and where. The full splendour of a volcano or a well-built city should be seen from here. Things do tend to move at an agonisingly slow pace, though.



● Before you begin your conquest you can choose your god's name and his features. Each of these characteristics has a unique effect on the gameplay, in effect personalising the game to your input. The passwords change, too.

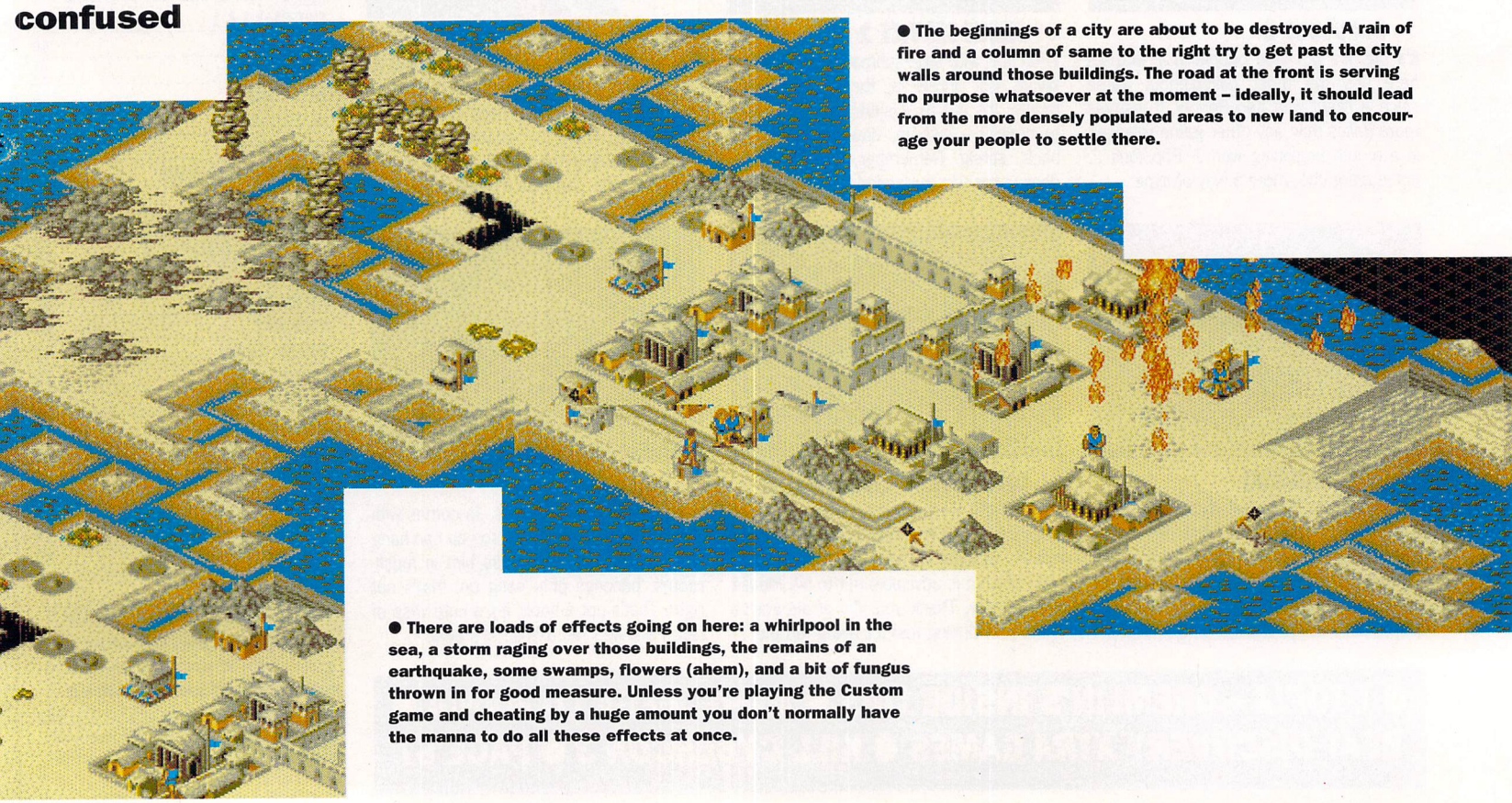
POPULOUS 2



Populous 2. Pop-u-less Two. Pop! Eweless, Too. No matter how you say it, there's no escaping the fact that this is the sequel to that game. It's been a long time coming, but now, at last, _Monopoly 2_ is finally here. Or is it _Populous 2_? Ed Ricketts is a little confused

An awful crime has been committed. Exhibit A: thousands – nay, millions – of poor helpless game-players devoting every spare moment to the conquering of one game. The perpetrators: a programming team known only as Bullfrog. The game in question: *Populous*, the first god-game and, some say, still the best. It's just been re-released on budget – see page 59. Unrepentant at enslaving half the country's population, Bullfrog have revamped their original torture, made it bigger, better and even better than that, and called their new weapon *Populous 2*.

In the unlikely event that you have not the slightest idea of how *Populous* is played, it goes a little bit like this. You are a deity battling for control of an isometric 3D world upon which scurry your subjects. They look to you to provide them with flat land to settle on, which you can do by raising and lower-



● The beginnings of a city are about to be destroyed. A rain of fire and a column of same to the right try to get past the city walls around those buildings. The road at the front is serving no purpose whatsoever at the moment – ideally, it should lead from the more densely populated areas to new land to encourage your people to settle there.

● There are loads of effects going on here: a whirlpool in the sea, a storm raging over those buildings, the remains of an earthquake, some swamps, flowers (ahem), and a bit of fungus thrown in for good measure. Unless you're playing the Custom game and cheating by a huge amount you don't normally have the manna to do all these effects at once.

ing the land appropriately. The more flat land they have available, the larger the house it is that they build.

It's to your advantage to have as large a population as possible because every one of your subjects prays to you, thereby increasing your manna level. Your subjects also need protection from the enemy.

Enemy? Well, there's another deity fighting against you for control of the world, who's also looking after his own subjects and throwing all the catastrophic effects he can at you. The other player may be ST-controlled, or you can link up two STs with a lead or modem in the same way as you can in *Populous* and have two human players. Ah yes, the effects. These are things like deadly plagues, impenetrable swamps, lava-spewing volcanoes and violent storms that you or the enemy can inflict on the other side to reduce its population and thereby the level of manna the other god has.

As you complete worlds, you're given a password which gives you access to a higher one

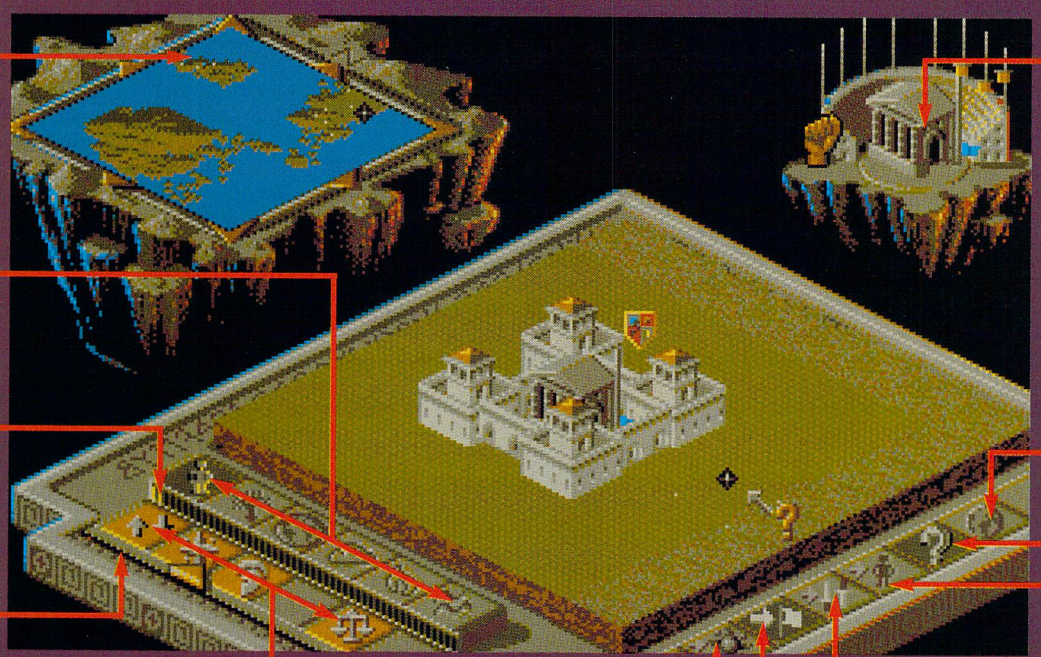
That's where the manna comes in – the more you have, the more effects you can use. It controls the actual level of devastation that these effects wreak and it is also needed to raise and lower land, so it's extremely important not to run out. So, you have two goals – to keep your population growing by giving them land to build on, thus boosting your manna, and to wipe out every person on the enemy's side, thus completing the world.

And that's *Populous*.

What's improved from *Populous 1*? Everything. The graphics are the first thing to strike you. The people have grown taller and there's all sorts of them now; young women, old men, middling nondescript things. Their houses are more detailed, too, and they grow

SIMPLY DIVINE

Where are all those bewildering icons from the first game? Gone – replaced by some (slightly) less bewildering ones, tastefully arranged in a neo-Greek Classic style with matching useless bits. If you prefer you can go to the full-screen view and select the effects with keys.



THERE'S SOMETHING NASTY IN THE POTTING SHED

...or in the Custom game, as the case may be. Here, you're given all the effects at the beginning of the game, but you're also at the mercy of these odd creatures that appear now and again. They walk from one side of the map to the other, doing their thing, then disappear.



● **The bronze man causes earthquakes wherever he walks, and he's that hard nothing can stop him, not even the sea (he's taller than sea level). The Poiseidon thingie just wades through the land taking chunks out of it, and he's that hard...**



● **The harpy bounds fleet-of-claw over the landscape, dishing out whirlwinds like a possessed Jehovah's Witness with a limitless supply of Watch Towers and a shopping mall full of interested people to give them to.**



● **There's only one word that springs to mind when you see the tree monster: pert. Mr Leafy, being an organic sort of guy, spreads little trees behind him on his travels. (That, er, thing round the front is a root, just in case you were wondering.)**

in more stages, from tents to castles. The sea laps around the shore and even changes its direction during a game.

One of the worst things about the first *Populous* was raising or lowering the landscape and then waiting for the display to catch up with your cursor. Now you have the opposite problem: the display actually seems to go faster than you, with the result that you end up doing more than you wanted. It's speedy, to say the least.

The screen layout has been modified. There are fewer icons, but they do the same amount of work, so it's less confusing for the absolute beginner. You can expand the main display to the full screen at any time to give you the bigger picture.

But the biggest change is to the effects. *Populous 1* always left you wishing for more, and with *Populous 2* that's what you get: 29 delectable effects now divided into six groups according to their, well, effect. So, for example, in the Vegetation group you get Trees, Fungus, Flowers, Swamp and a Hero.

Each group has a hero, and they're the equivalent of the knights from *Populous 1:* superhuman fighters that can seriously thrash the opposition for you. Although they all basically head off to the other side and beat up everyone they see, they do it differently. The Vegetation hero splits in two when he wins a battle; the Fire hero burns everything he touches; and the Water heroine leads the enemy to a watery death.

You have to be careful with some of the effects because they may just backfire on you. Plaguing the other side may seem a good idea but if one of their people touches you, you're in trou-

Earthquakes, volcanoes, whirlwinds and tidal waves sweep across the screen, causing graphical havoc in the most splendid manner

You have two goals: to keep your population growing by giving them land to bulid on, thus boosting your manna, and to wipe out every person on the enemy's side

ble. Ensure the columns of fire you send off to the enemy don't decide to come back and torch your houses.

The effects you can use depend on the world you're playing. There are 500 or so worlds to play in the Conquest game (the standard game). As you complete each world, you're given a password which gives you access to a higher one. How much higher depends on your popularity rating from the last one. On the lower worlds you're given, at most, two effects in each group. This is to introduce you to them slowly and train you to use the less effective ones before you get your hands on a volcano.

Not all the effects are destructive. Some of them are designed to make life that bit nicer for your subjects. They love a few trees or flowers around the place, and city walls and roads make them feel secure. The moral is not to get too carried away with bashing the enemy, because your own people are more important.

The effects aren't let down by their graphics. Earthquakes, volcanoes, whirlwinds and tidal waves sweep across the screen, causing graphical havoc splendidly. Switch to the full screen view and you can get quite carried away – just like the houses and trees in the streams of lava. There are the samples to match: a moaning wind for the whirlwind, an ominous "gloop" when someone falls into a swamp, and the almost permanent sound of lapping water.

VERDICT: Bullfrog have crammed everything that was missing from their first opus into *Populous 2* and made a game that's playable, challenging, exciting, as difficult as you like and great, great fun.

There's so much to experiment with and so much that's not apparently obvious, that even if you completed the 500-odd worlds in the Conquest game, you could go back and complete them all again in a totally different way – and still find hundreds of things you never noticed before. For instance, how would you get over the enemy's castle wall, short of knocking it down? Whip up a whirlwind near one of your people and hope that it carries him/her over the wall. Because whirlwinds don't damage people, he'll be perfectly safe and you'll have gained a foothold in the enemy's camp.

The Bullfrogs' last game, *Power-Monger,* had two major failings – it was rushed and there just wasn't enough to do. Bullfrog have obviously learnt their lesson on both counts. All the time that's passed since it was first

ANY PREVIOUS EXPERIENCE?

On successful completion of a world, you may be awarded some experience, if you've kept your people happy. On the map, you can see a replay of what you did in this world, and an award appears at appropriate points. This experience can be invested in one of the six elements, increasing the power of those effects in later games. With enough experience you become the god of that element.



● Experience awards are given for looking after your people and for using the effects well. There are other factors but they're not immediately obvious.



● Many of the earlier worlds are best ended with an Armageddon, which you might just remember from the first *Populous.* All the population leave their houses and head towards the Papal Magnet, where a huge scrap occurs and the winner, er, wins. You get less points for using an Armageddon than for not using one, though.

MEMORY PAIN

This full version of Populous 2 requires 1MByte of RAM to work, so you need a 1040ST or an upgraded 520ST to run it. Although Bullfrog plan to release a 0.5MByte version soon, this will have the samples replaced with sound chip effects and might even have other bits cut out.

Why deny yourself the chance to play the biggest game of the year? If you've still got a 0.5MByte ST, you're missing out not only on some of the best games to be released but also a lot of "serious" software. Get yourself a 0.5MByte upgrade. It's worth it in the long run.

The best fit-it-yourself board available is Frontier Software's Xtra-RAM Deluxe 0.5MByte upgrade. At £69.99 it's not the really the cheapest available, but the build quality is high. You don't have to do any soldering unless you have a very old ST, but if you like, Frontier can collect your ST, fit the upgrade and return it to you, all by courier, for an all-inclusive price of £40 extra. The upgrade board is also expandable at a later date to 2.5 or 4MByte. You can contact Frontier on ☎ 0423 567140.

We reviewed all the ST memory upgrades in issue 25 so turn to page 142 for details of our back issue service and you'll be able to make a fully informed decision.

announced has been well spent, and, as a result, chances are that *Populous 2* will be sitting on your hard drive for years.

All this hyperbole doesn't mean that there's nothing wrong with the game. There's still a heck of a lot of uninteresting land levelling to be done (though you can tell your ST to handle this if you like). Most of the earlier games, where you don't have many effects, tend to be plain and simple population races, and end in Armageddons.

The moral is not to get carried away bashing the enemy – your people are more important

The Bullfrogs have also taken care of the more frustrating aspects of the game. Moving between the main display and the movement arrows on the small map is a real pain in the neck, so there's the option of using the cursor keys instead. And because even one game can take upwards of 20 minutes, you also have the facility to save and load partly-conquered worlds.

If a game ever deserved the label "epic," *Populous 2* does. The seemingly interminable waiting, the hype, the superlatives, they're all totally and utterly justified. Even if you bought *Populous* (and who didn't?), get your mitts on *Populous 2*. You know it makes sense.

ED RICKETTS

POPULOUS 2

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- The game that started it all now has a slew of imitators, but none go as far as *Populous 2*.
- *Utopia's* graphics are a little "cleaner" and more colourful, but they're not as well animated.
- Beats *PowerMonger* on almost every count: graphics, speed, interest, title screen...
- Not as light-hearted as *Mega Lo Mania*... just as involving.

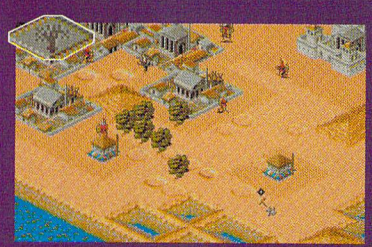
STF RATING 95 %

SPECIAL EFFECTS

However hard you pretend to be interested in the welfare of your own people, there's always the sneaking suspicion that it would be much more fun bombarding the other side with effects. And indeed it is. Click on the effects icons – shown in the top left hand corner – to activate the effect you want.



● City walls protect your buildings from everything except earthquakes and certain heroes. They can't be moved by raising or lowering the land, but beware, your people don't like living too close to them. But then with earthquakes and heroes battering away at them, nor would you.



● About the only effect that hasn't changed from *Pop 1* is the swamp. Admittedly, it's a little more graphically realistic now, but its properties remain the same – it's still a bottomless pit of sucking death that takes no prisoners. (Ahem.)



● The fungus opened with the classic Zimmerman Gambit, but soon switched to the Hortsman Defence and wiped out half of Red's population. Luckily Red quickly learned the rules of Life and built his houses where the fungoid menace couldn't reach him.



● A rain of fire can be as devastating as a fire column if the "drops" land properly. Often they miss the buildings and people completely, particularly if you're low on manna and only two or three "drops" appear.



● The wind effect is so strong it blows everything on the map – people, houses, trees, rocks, rhododendrons and orange peel – in the direction you choose. And that includes all your people and houses too, so be careful. It's an ill wind that blows and so on and so on.



● Pimpling. The act of raising the land in a certain area to an unacceptably high level while simultaneously seeding the same area with an equally ridiculously huge number of rocks. See also Spotting, Zitting and A Bloody Nuisance.



● Columns of fire move towards higher ground, so if the enemy springs one on you, direct it away from your buildings by creating temporary hills. You can even send it back to their side if it lasts long enough.



● "Bring out yer dead!" "I'm not dead yet, honest." "No, but you're about to be 'cos you've got the plague, haven't you?" "How can you tell?" "That whacking great vulture circling above your head was my first subtle clue. Now shut up and lie down. Oh blimey, now I've got it. Thanks a bunch,



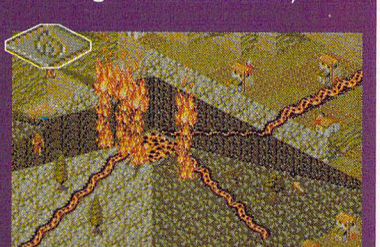
● Earthquakes are initially directable but soon change course. Beginning as just small cracks, they eventually open out into huge chasms, engulfing houses and people (if they're stupid enough to walk into them). Again, they can be cured by raising and lowering land on the fissures.



● The storm hovers above an area and sends down occasional bolts of lightning, which may or may not strike something of interest. The lightning doesn't necessarily kill everything it touches, but it certainly weakens it.



● The tidal wave spreads out in four directions and eats away any land that's at the lowest level. It gets through the smallest gap in a "sea wall" and start spreading out again, so it's potentially the most destructive effect there is.



● The volcano is a havoc-wreaker extraordinaire. As if the earth upheaval isn't bad enough, streams of lava pouring from its top carry away and burn everything in their path, including people and houses. But it's a bit of swizz since to stop it you just have to "cap" the top of the volcano.

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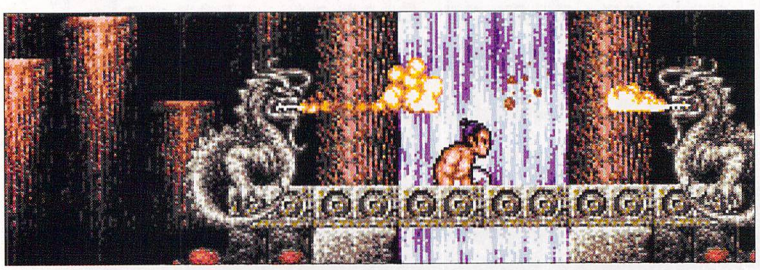
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FIRST SAMURAI

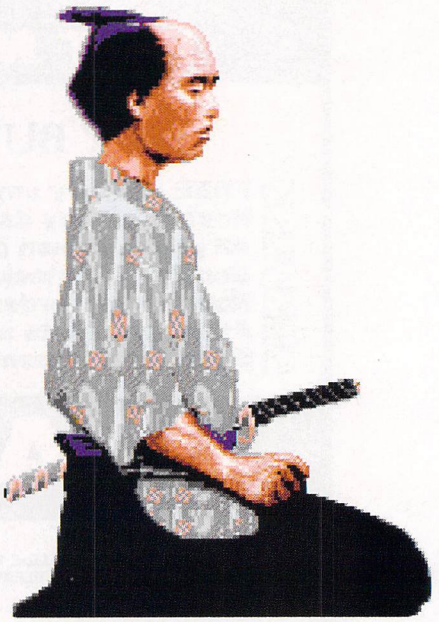
There were seven in the film. They were cold, hard and unforgiving, with nerves of steel and an unfailing sense of honour. Now Ed Ricketts gives you the chance to recreate that role... *First Dwarf,* an exciting tale of short people with big katanas



● Samurai originally meant "man who has just had his master killed and is now centuries ahead of his time chasing after the culprit," but the meaning's been corrupted over the years. It now means "small yellow biscuit tin lid." Honestly.



● These pairs of dragons are a real pain. Most of the time they're blowing fire (of the very damaging sort) through their mouths, but occasionally they give it a rest, giving you a chance to pass. It's the timing that's dead hard.



Samurai don't grow on trees, you know. Someone has to train them before they can go out and slice people up. Unfortunately, by the time a samurai is good enough to teach anyone else, he's not really that far off kicking the bucket himself.

So, when an evil magician decided to have a go at the First Sam's master (because he's evil and that's the sort of thing he does), the old goat didn't stand much of a chance. Understandably, First was a little ticked off to find himself halfway through Lesson Five, "How to Pick Up a Sword," with no idea of what to do next. Fortunately, the old master did some magic himself on the side, and, with his last burst of magicness, he transported the young sam into the future, whence the magician had disappeared.

Right, so we finally get to the point of *First Samurai.* Sam No 1 is chasing the nebulous magician over ten scrolling platform levels in the hope that he can get onto Lesson Six. The levels range from the countryside of rural Japan to the inner cities, including a railway, and finally to the penthouse apartment of the unpleasant necromancer himself.

The levels range from the countryside of rural Japan to the inner cities, including a railway, to the penthouse apartment of the unpleasant necromancer himself.

Initially you're swordless, with just your fists and feet to beat off the hordes of unfriendlies. You need to kill a certain number of enemies to get your sword, but beware: if your energy is dramatically reduced, you lose it again. Energy is (predictably) increased by collecting artfully-placed food, and there's a separate measure of courage (or enemies killed).

There are plenty of other objects to collect. Throwing knives supplement your sword and give you some range in fighting the opposition. Lamps show you hidden bonuses, but they don't necessarily make them instantly available to you – you may still have to work out how to get them. And very importantly, there are bells. Never be without a bell, because they can summon the spirit of your dead master. He can get you past what seem to be completely impassable spots, but only in the right circumstances – you can't use him just anywhere you fancy.

To help you survive for more than three minutes, you can use the life pots. Cunningly disguised as pots, these are activated by donating some

SAMURAI NUMBER ONE, YOUR TIME BEGINS (WAIT FOR IT, WAIT FOR IT)... NOW



● You're dropped off at the beginning by the spirit of your dead master who swirls about a bit and then leaves you all on your tod. First priority: get your sword.



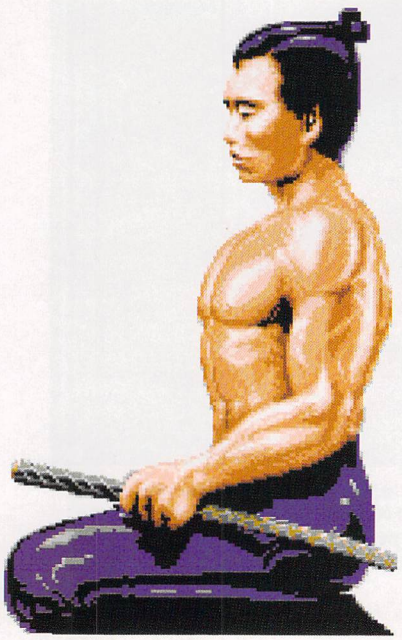
● Head right, stiffing the bats. Pick up the knife and wang it at the flying horrors. About now you should have killed enough to get your sword chucked at you in a flash of pretty lights.



● Hack up the chest if you want; it contains bonus treasure or life-giving food. Climb up the rock to get to the life pot, but since you're so close to the start there's no benefit in activating it.



● On the other side you meet these pleasant *Alien* style beasts who have the endearing habit of launching themselves at you and not letting go. And they attack from both sides at once.



of the energy from your courage pool to the pot. Thereafter, when you die you're returned to that point rather than the start of the level.

La Premiere Sam himself is a well-'ard dude who struts across the screen in a way that's uncannily similar to Robert Mitchum. His sword has a nice habit of leaving speed blurs in the air and glints nastily, giving you the impression that it isn't a good idea to shake hands with it. The other samurai also look the part, silly hats or no silly hats, but some of the creatures are a mite disappointing. The bats are a uniform shade of black which doesn't tend to show up remarkably well against the, er, black background, and the rats should never have been let out of their laboratory. The background graphics, however, are exemplary. Some almost look as if they've been digitised, particularly the flickering fires, which are as convincing as those in *Prince of Persia*.

Once again though the game's badly let down by its so-called effects. Samples are what's needed in a game such as this – screams of agony, grunts of effort and all that. Alas, all you get are some standard sound chip noises, which, although they're better than those in many similar games, don't provide the right atmosphere.

VERDICT: You can't ask much more from a platform game than you get from *First Samurai*, unless it's a pint of lager and a packet of crisps. The game's written by Raff Cecco, and, as you might expect, the gameplay's tuned to the more hardened arcade player – beginners are likely to be frightened off early on. Ten levels is a ridiculously large number to expect you to complete, but if you're up to it you'll have a whale of a time getting through them. The graphics are good, but the effort spent on them hasn't been at the expense of gameplay. The little touches – speed blurs on the sword, the twinkling effect when you're reincarnated – make it evident that a considerable amount of time has been spent on the game's presentation.

But – there's always a but – in the end, at the finish and after all the shouting's over, *First Samurai* is only a platform game. It doesn't offer the long term addictiveness of something like – to take an extreme – *Populous 2*, especially if you find it too hard to begin with. So... expecteth not the world, and you may be pleasantly surprised.

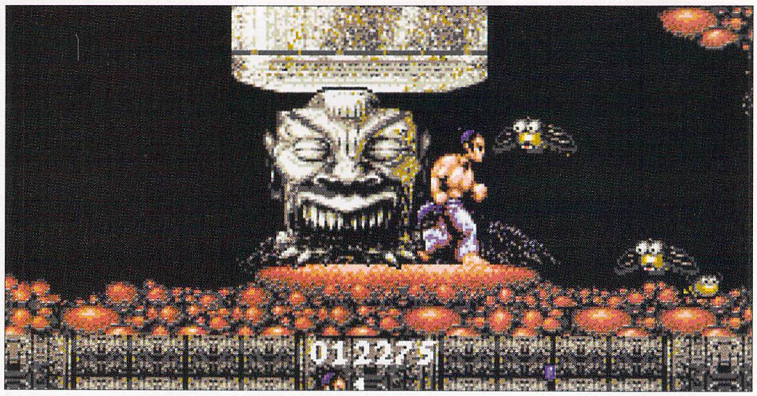
ED RICKETTS

FIRST SAMURAI

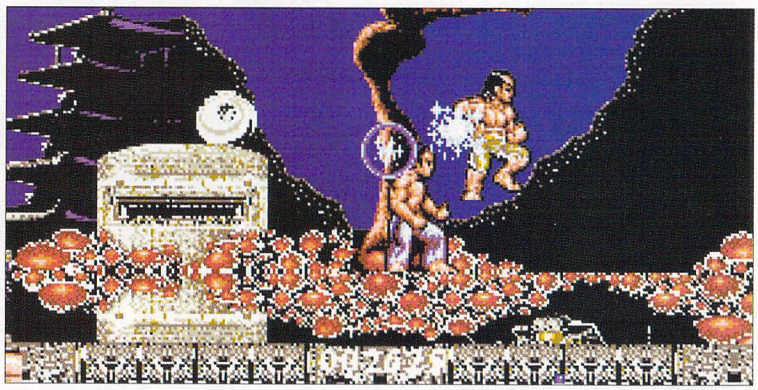
IMAGEWORKS £25.99

- Animation not quite up to the standard of *Prince of Persia*, but it's getting there.
- If "platform game" makes you think of *Magic Pockets*, think again. This is no kid's game.
- "Digitised" look to the graphics might remind you of those in *Ninja Spirit*.
- Gameplay not much different to *Switchblade 2*, *P of P*, or a hundred other platform games. But it's still fun.

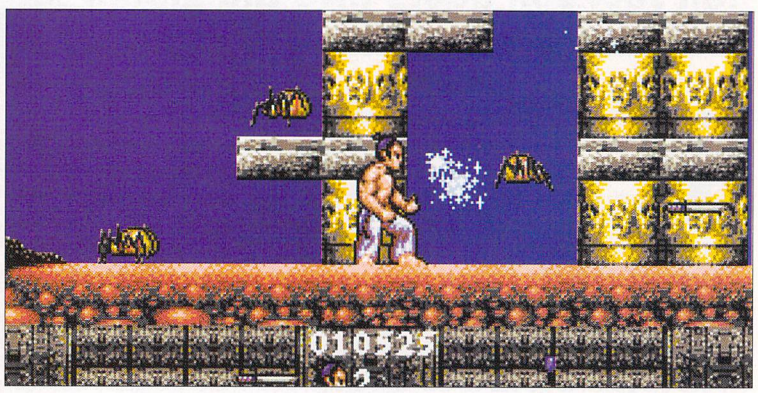
STF RATING 79 %



● Famous last words: "Ooh look, a big stone head. Let's go and have a look at it. After all, it can't hurt us, can it?" Well, no, at least not until it gets up and starts scuttling after you with a nasty grin on its chops.

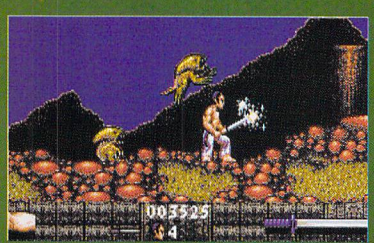


● You might be the first but you're not the last. Samurai, that is. Other apprentice assassins are on your manor and they're a dab hand at the bare-chested combat pose. You stand no chance with those silly clothes.

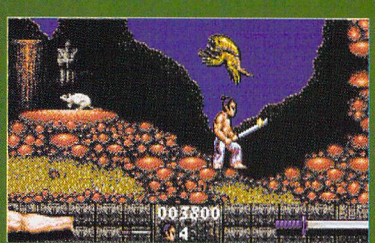


● You get all sorts of horrible monsters for your money: rats, bats, alien thingies, other samurai and, of course, big hairy spiders. These pour down at a alarming rate. It's all extremely distressing for an untrained sam.

If you were expecting a nice simple first level to ease you into the action – ha! Stand in the corner with a pointy hat on, 'cos move a few pixels to the right and you're immediately bombarded by your first foes, the bats. So with a resigned sigh of "Here we go again..." you head off to the fight.



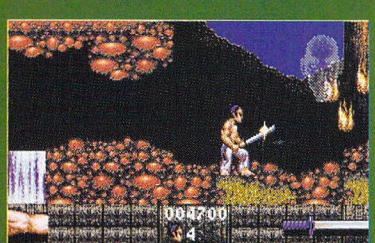
● Keep your sword at the ready and don't, whatever you do, let the blighters get a hold on you, or you'll be flailing about like a man with an alien on his head and the desire to be elsewhere.



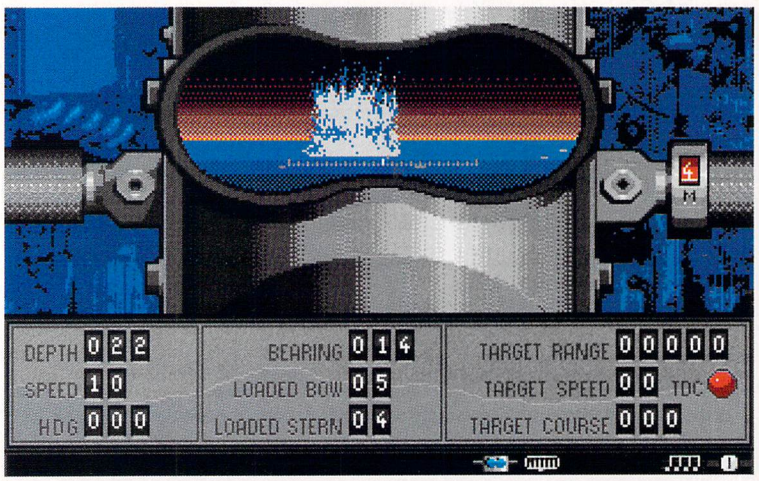
● Keep going right, dispatching the alienettes as you go. Open up that basket you saw a while back to get more food. Hack, slash, maim, and then climb that rock wall.



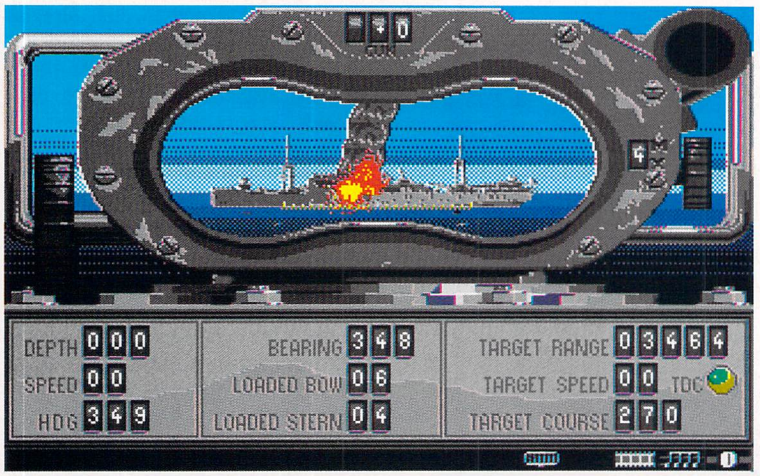
● Activate the life pot on top and pick up the lamp – it shows you the location of hidden bonuses. Get under the rock and after some shenanigans below, in the waterfall, you have picked up a bell.



● This is where you need it. The fire that chucks out burning rocks is very difficult to pass without your master's aid. One ring and he's by your side, raining on the fire to put it out. Onwards ho.



● While you don't usually go on a sub to look at the scenery, ***Silent Service 2*** gives you a break from looking at the charts. A night-time view through the periscope shows an enemy ship at close range. Torpedoes don't work too brilliantly at this distance, hence the huge watersplash caused by a premature explosion.



● When you've surfaced, you can nip up the ladder to the bridge. Here you call in the fire from the sub's deck gun. You control elevation and the crew handles the bearing. You should only use this method of attack when there's no danger of getting shot back – you're a weakling really, and one hole'll kill you.

SILENT SERVICE 2

Set planes for diving, down scope and everybody say "arrooga! arrooga!" until we hit bottom. Will *Silent Service 2* send you overboard? Neil Jackson peers into the gloom to see what's sub-standard

Boats! Brr, horrible things. You wouldn't get me on one for all the tea in China. But during the Second World War, some folk had to put up with living in a streamlined metal bubble, 400 feet under the sea, for weeks at a time. Not a pleasant prospect, especially if you're the tiniest bit claustrophic.

Far better then, that Microprose give you the option to go sub-surface in the comfort of your own armchair, thanks to *Silent Service 2*. It's been more than two years since they first took a deep breath and released the original *Silent Service* simulation which is a bit of a leaky old tub by today's ST standards.

In the new version, you're the captain of an American submarine just before the Pearl Harbour attack of World War Two. Your job is simple: cruise around until you see a bunch of Japanese ships, duck underwater, torpedo the heck out of them and then scoot clean away.

Success is a lot harder than the mission briefing suggests. There are many factors you need to consider before slamming away at the torpedo tubes. For example, what's the visibility like "up top"? A dark night may be better for creeping around in, but you can always get closer by approaching from the correct angle – your broadside presents a nice fat target to a warship's deck guns.

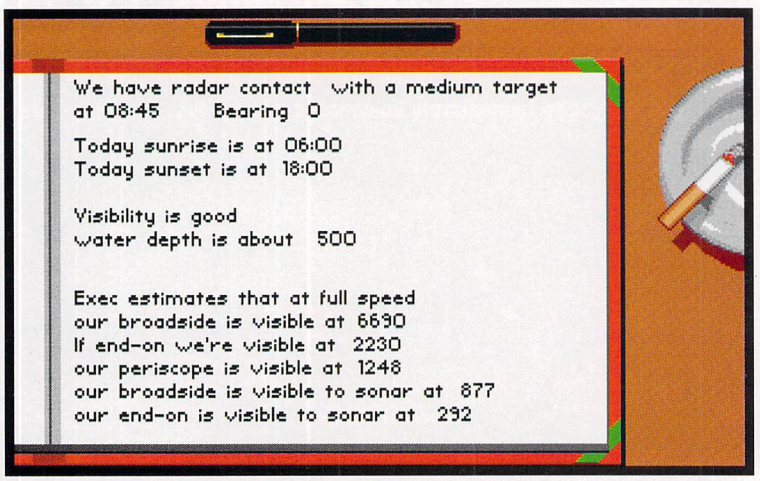
If you make it to firing range (around 3,000 yards) without getting spotted, you have a choice. If you're up against a small or unarmed target, you can just pile it on with your deck guns – but it takes a few shots to get the range and elevation set correctly. Through the binoculars on your Target Bearing Transmitter (TBT), you can see the plumes of water caused by your initial ranging shots. Finally you hit metal, and a series of explosions and fireballs rock the target ship. Its engines stop running and it glides to a standstill, waiting for your killing blow to sink it.

If instead you find a large group of heavily armoured warships and patrol boats guarding a red-hot target – like an aircraft carrier – a different tactic is called for. Dive to periscope depth and track the convoy without getting too close. Usually convoys move fairly slowly, so you can overtake them and position yourself ahead for firing.

An undetected torpedo launch is your best bet for mission success. You can use the Torpedo Data Computer to calculate the correct course for your tin-fish, but it means you have to be at periscope depth, so your crew can check the target's speed and direction. An alternative approach is the manual mode, where you have to do all the appropriate calculations yourself, but you can launch from below the cold



● When you select a full-blown military career, you also have to decide upon a starting base like the one in Manila, Philippines. Throughout your game, relevant military information is relayed to you on this screen – information like "Manila has been captured by the Japanese." Gulp! It's all down to you what you do next.



● Time to hump or die. An enemy convoy has been spotted in the distance and you've got to decide whether or not it's a good idea to engage them. The weather and visibility information changes on each engagement, so note it down (and don't lose it). You don't want to get too close in broad daylight.

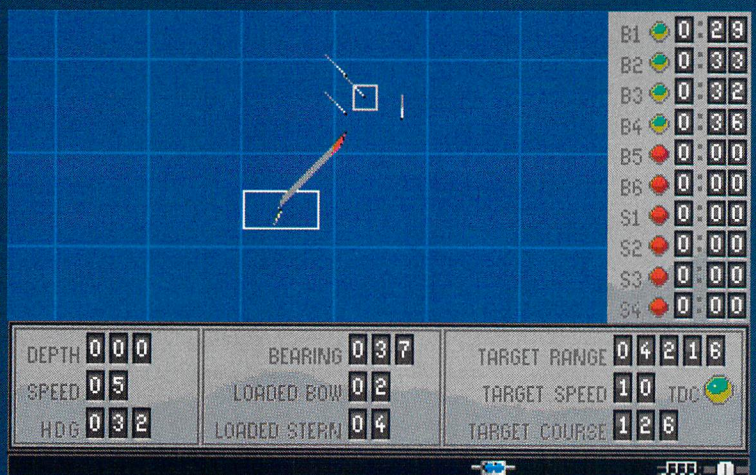
RUN SILENT, RUN DEEP

The mistimed attack is your deadliest enemy. Blow your cover too early and you end up covered in anti-submarine patrol boats. These dangerous tubs skate around over your last position, scanning the water with sonar. If they get a fix on you, they follow it up with depth charges.

To beat the sonar, check the depth under your keel, crash dive as deep as you dare and drop the engines to slow speed. Keep your sharp end pointed towards the patrol boats to minimise the sonar reflections from your slab-sided craft.

Try to make it down to around 250 feet, where the water temperature drops. This cold layer prevents sonar waves pentrating through to you. If you continue quietly sneaking, you can make it away from the patrol boats. But don't open the throttles too early or they'll be on you again.

If all else fails and you can't shift the boats, wait for a depth charge attack and then flush garbage out of the torpedo tubes. This old decoy trick has a reasonable success rate – the boats think you've crumpled and soon leave you alone to lick your wounds.



● The chart screen is the only real friend you have underwater. It gives you vital information on the position of the black enemy ships which you can see through the periscope or from the bridge. Torpedoes are tracked here, with a time countdown showing their remaining fuel.

water shelf. This is very difficult, despite diagrams and explanations in the *Silent Service 2* manual. But it wasn't easy in the real thing either, so at least it's accurate.

Submarine warfare wasn't renowned for its fantastic views and grand panoramas – there wasn't a great deal to see at 30 fathoms. But *Silent Service 2* is a lot more visual than you'd expect, relying on six main displays to show your life on the sub. You spend most of your time on the Chart display, which is a plan view of the area around your sub. You can zoom in for a close-up and see short black lines with grey trails which show the movement of ships above you.

You also use the chart screen to plot the correct course for manually-fired torpedoes and to check their progress as they race to their targets. Digital displays show the fuel-time left in each running torpedo, and information from your engine-room and navigator.

When you're not map-reading, you skip between the remaining displays according to your current course of action. The Bridge Lookout and Bridge TBT can only be accessed when the sub is at the surface. They show (not surprisingly) a vast expanse of sea, and perhaps a few ships. The quality of the graphics is pretty good, but, although they're better than on the original version, they're not exactly state-of-the-art, fast-moving sprites. Other displays include the mainly static Gauges screen and Damage Report, which show the sub's important dials and instruments and give an indication of the boat's integrity. Useful, but not especially stunning.

Your job is simple: cruise around until you see a bunch of Japanese ships, duck underwater, torpedo the heck out of them and then scoot clean away

VERDICT: All screens, including an intermediate animation which depicts your submarine launching torpedoes, are accompanied by crisp, clear sampled sounds. The bubbling torpedoes, crashing guns and the chugging of your engines all help to enhance the atmosphere and make it a lot more realistic.

Silent Service 2 is good fun to play, but it's a bit repetitive after a while. There are 53 different keyboard commands involved in piloting your U-boat – the mouse and joystick are not used at all. A clearly-marked keyboard overlay prevents this being a nightmare.

The game can be played with different levels of difficulty, depending on your choice of equipment at the start. You can select reliable or realistically-inaccurate torpedoes, single or multiple engagements, or an older, less effective sub. All these factors modify the relative difficulty of the game, without actually changing the gameplay at all. For the experienced player, there's a career option which takes you through the entire war, complete with up-to-the-minute war news reports informing you of all the historic battles being fought elsewhere.

There's a lot on offer if you're prepared to plod along and get into the spirit of submarining, but *Silent Service 2* is no shoot-'em-up extravaganza. Its presentation and atmosphere are brilliant, but it needs you to be into the subject to begin with. If subs don't get your propeller spinning, then you're likely to find this a bit too slow and boring. But if you're prepared to take the plunge and wallow in a bit of underwater skullduggery to earn your slice of the action, *Silent Service 2* won't let you down.

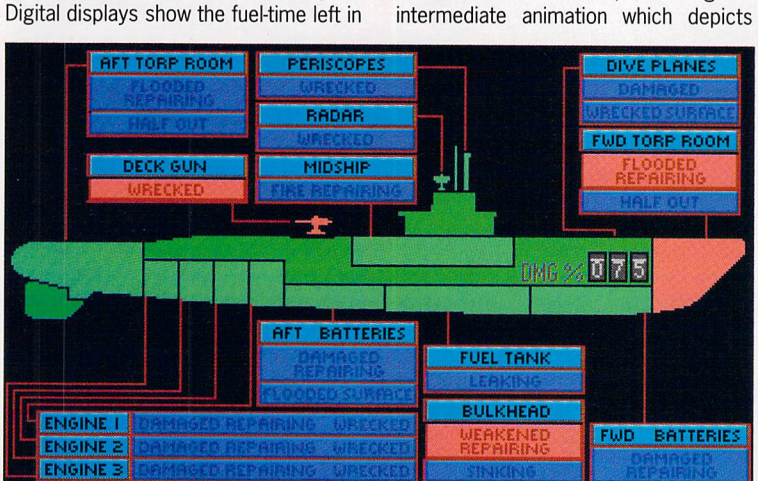
NEIL JACKSON

SILENT SERVICE 2

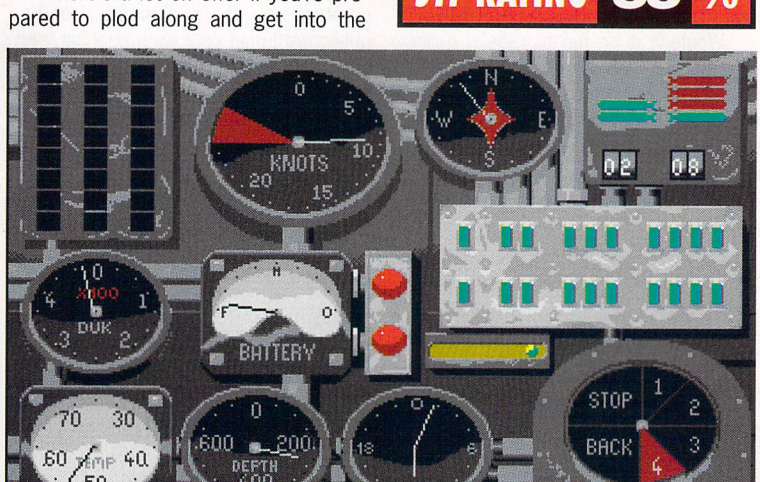
MICROPROSE £34.99

- Much better graphics and animation than its predecessor, *Silent Service*
- The best submarine sound effects you can find. Beats those in *Hunt for Red October!*
- Better gameplay, with less keyboard hassle than *Red Storm Rising*
- Far better presentation and appeal than *Wolfpack* (see page 52)

STF RATING 88 %



● Damaged subs don't float particularly brilliantly and this one's nearly had it. Many of the systems repair themselves over time, but you need to be well out of the range of enemy fire to stand a chance. When things get bad, all you have to do is go as deep as you can and creep away quietly, hoping that you remain invisible.



● The gauges help you to determine two really important bits of information – the water temperature and the depth under the keel of your submarine. The temperature gauge helps you find out where the "cold-water layer" is and the Depth Under Keel stops you dragging the floor off the sub.

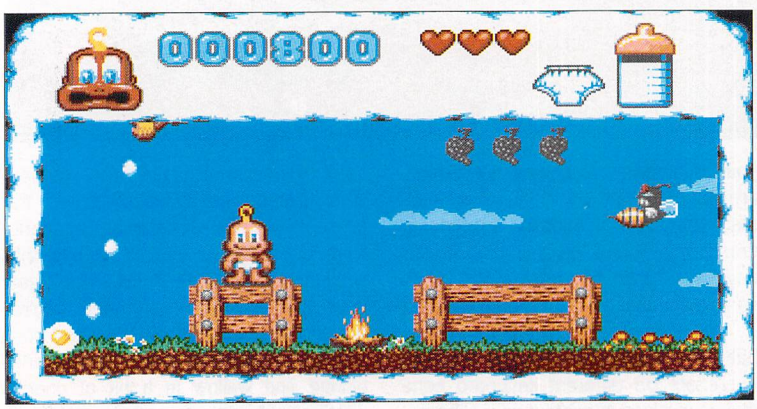
BABY JO

Baby stars come and baby stars go. Over the year we've had the likes of *Jack the Nipper*, the *Brat* and the *Bitmap Kid* on home micros, but now it's the turn of *Baby Jo*.

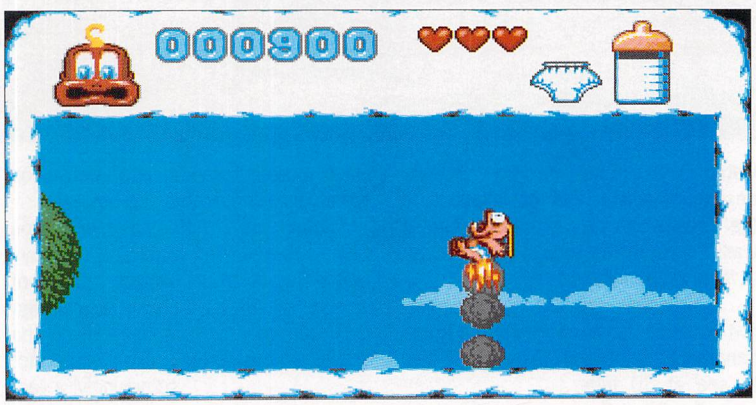
Jo is a bit different from the other tykes, in that he's a nice guy rather than a mischievous little brute. He's lost his mummy and is stranded far out in the countryside (sounds a bit suspicious – how'd he get there in the first place?). Over four horizontally and vertically scrolling levels, Jo has to get back to the big city and his Mummy – who's sure to be over the moon at his return.

The indigenous wildlife has other ideas, of course. The friendly countryside creatures of Level One turn out to be not so friendly and even the daffs spit nasty stuff at you. Scattered around are milk bottles that top up your energy, extra lives, and some bonus items. Clean nappies must be collected, because, as Jo eats the bonus sweets he can find, his nappy gets – erm, not quite whiter than white. So, he can't jump as high because he's weighed down by the – well, you know. A Super Nappy enables Jo to jump higher than normal, a Protection Cape has the obvious effect, and if Jo picks up a rattle he has a weapon to protect him against the smaller monsters.

The sprites in *Baby Jo* move quite slowly, but they need to because the



● ***Baby Jo*** **makes his eponymous début on the ST in this cutesy, but tough, platform game. In Jo's world, a clean nappy, a rattle and some sticky toffees are all that's needed for a contented mind. But his mum might come in handy, too.**



● **Getting too close to a fire isn't a good idea because it results in a burned bottom and a lost life. Sometimes you have no choice but to risk getting burned if there's an essential bonus nearby. Beats getting spat at by vicious daffs any day.**

CISCO HEAT

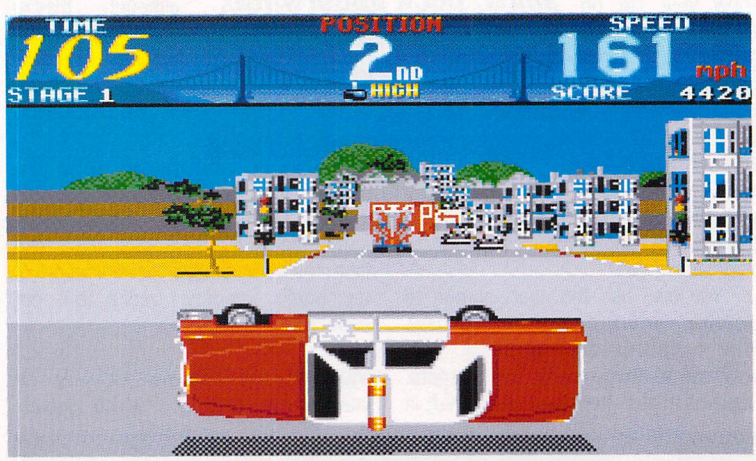
The streets of San Francisco are famous. Not only did they give their name to that terrible '70s detective series starring Michael Douglas, but they also always seem to crop up in films whenever a car chase is required, even if five minutes before it was set in New York.

Wouldn't it be fun to race a police car through those long, windy hills, mowing down innocent pedestrians and not giving a damn? You bet your little blue flashing light it would. That's just what the San Fran police force do once a year and now you've got a chance to join them.

The race is split into five sections, beginning from the Golden Gate Bridge. Up against you is the rest of the police force. You've got two cars to choose from, but they're pretty much the same (except one of them is a natty shade of red). Unfortunately, the police haven't been far-sighted enough to clear the roads of other traffic, so you have to contend with the odd member of the public getting in your way. Bashing your horn should scare the living daylights out of them and with luck they'll move out of the way.

You only have a limited time to complete each stage. Some stages have checkpoints midway – if you reach these, you're given extra time to finish the stage. Time is wasted by crashing into things. This doesn't damage the car at all, it's just damned inconvenient. Control is by joystick only and is a piece of cake to get to grips with. You're blessed with just two gears, Low and High, corresponding to Fast and Even Faster speeds.





● **"If you're going to San Francisco, be sure to wear your regulation headgear, uniform and 'pacifying' stick at all times," sang Scott Mackenzie in 1967 – or something very like that, anyway. The heat is on in 'Cisco.**

Cisco Heat's graphics are curious creations. From an observer's point of view they look unforgivably horrible. The road jerks its way across the screen ridiculously and the roadside sprites stubbornly clump together, making a huge person-tree-building-shaped mess. Yet when you're playing, the way the hills suddenly loom up ahead of you and then dump you breathless on their other side is nearly, almost, slightly, thrilling. So is the disorientating effect as you try to swerve round a corner and find yourself facing a pleasant sea of nothingness, having missed the turn entirely. While this is going on, the poor sound chip manages to keep up a half-decent tune and spot effects as well.

VERDICT: *Cisco Heat* is a pretty decent conversion of the Jaleco (bless

game's not easy. The graphics have a distinct comic strip air about them – everything is heavily outlined, detailed and colourful. In fact, the more you play the game, the more you appreciate the graphics. There are a couple of nice samples like Jo's crying when he "dies" or when he gets a burnt bum, but mostly the audio effects are just a sound chip tune.

VERDICT: *Baby Jo* is an enjoyable, if somewhat unforgiving, platform game with idiosyncratic graphics and an engaging air about it. It's unforgiving because you don't get many lives and they're easily lost. But then, with only four levels (accessed with a password system) it needs to be on the tough side. It doesn't have the manic air of something like *Magic Pockets* or *Rolling Ronny* (see our review on page 45). Moves must be planned carefully, and the programmers have made sure there's always an energy bonus available to you if you need it, though it may be very difficult to reach.

It's nice to see a non-arcade conversion cutesy game with some thought behind it. We could be seeing more of *Baby Jo* in the future.

ED RICKETTS



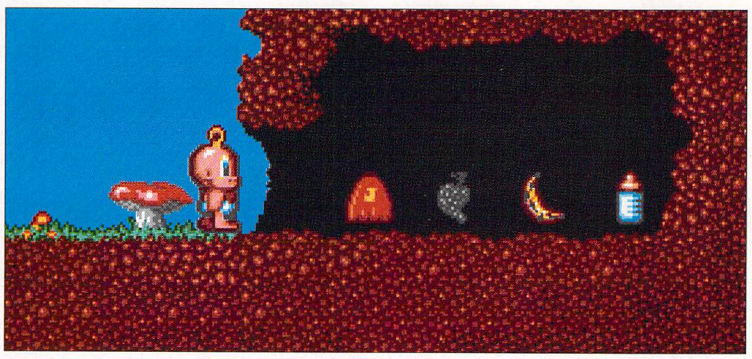
● **No, thanks, I've given up. Halfway through each level you meet Daf – sorry, Chuck the Duck. He pops up from his hole in the ground especially to give you either a useful hint or, alternatively, a completely useless nugget of information, such as, "Avoid the monsters" or something equally stupid.**

BABY JO

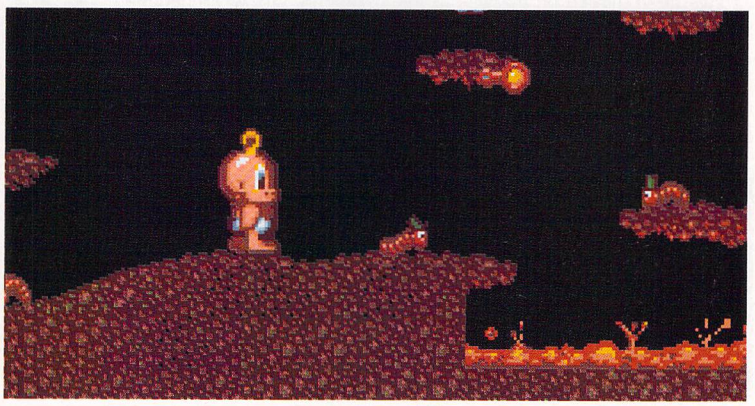
LORICIEL/INFOGRAMES
£25.99

- *Magic Pockets* springs to mind on first sight, but the two games aren't really similar. *BJ* is much harder and more linear.
- Graphics are more detailed but slower than those in *Brat*.
- *Builderland* might seem similar but the two games are from different genres.
- Cute "cartoon" graphics are like those in *Nine Lives*, only bigger and more detailed.

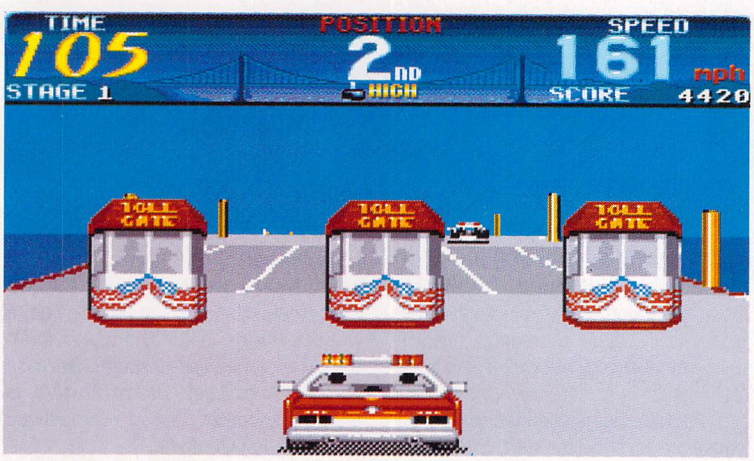
STF RATING 79 %



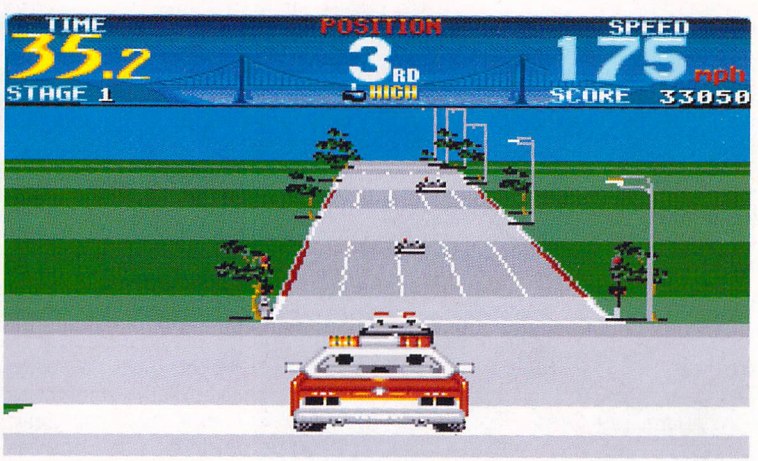
● **Artfully hidden around the levels are small symbols inscribed in the earth or on the platforms. Touching these symbols opens up a cave containing a tempting hoard of exciting goodies just waiting to be pinched by an observant Baby Jo.**



● **By Level Two you're under the ground in the caves. Here more than ever you need to find the secret stores of useful stuff, but, since the caves are so dark – and frightening for a baby – the symbols guarding these stores aren't easy to find.**



● **There are many advantages to being a law enforcement officer, or a policeman as they call them in America. One is that you don't have to pay the fare at toll-booths. Nevertheless, not smashing into them head-on is still recommended.**



● **It's quite amazing the amount of damage you can dish out to a well-built all-American car. No matter how many hills you take on one wheel, no matter how much pedestrian mulch you get on your tappets, your good ol' vehicle keeps on**

you) coin-op. Ignore your first impressions (which are probably along the lines of "oh God, another pathetic racing conversion") and give the game a few plays. Chances are you'll like it much more than you first thought. It doesn't offer any clever programming techniques, nor a new game system or stunning graphics, but it's solidly put together and worth a good few plays, even if it is a little easy. If you're interested, get someone else to shell out the cash for it. After all, it's not really *that* good.

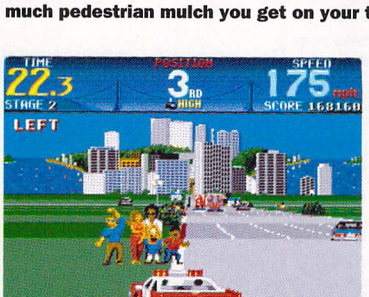
ED RICKETTS

CISCO HEAT

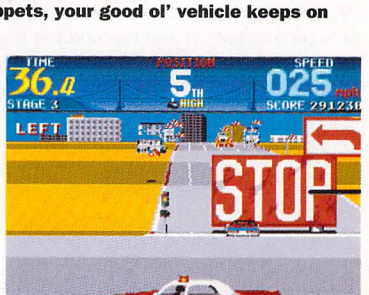
IMAGEWORKS – £25.99

- Not as graphically slick or as engaging as *Vroom*, but then this is more simplistic and arcade-orientated.
- *Outrun Europa* curls up and dies beside this.
- More forgiving than *Super Monaco GP*. No "one bump and you've crashed" here.
- Graphics may remind you of *Moonshine Racers*. This is the better game though.

STF RATING 72 %



● **A family of the citizens you've sworn to serve and protect are about to experience a somewhat unpleasant end to their little day out. Slap a vagrancy notice on them to stifle their moans and get on with the race.**



● **Turn left! Turn left, dammit! Actually, if you don't, all that happens is you sit there like a great big non-moving thing while everyone else whizzes by you and taunts you mercilessly.**

LOTUS TURBO CHALLENGE 2

The Lotus Turbo Esprit: probably, almost certainly, the car most people would like to have, perhaps. Very handy for bombing down the Autobahn at 120 mph, but not quite so useful for crawling around the streets of Bradford on a wet Wednesday.

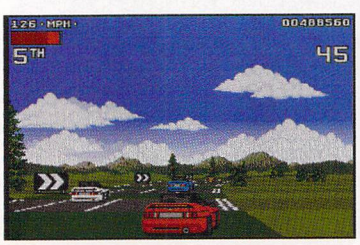
In *Lotus Turbo Challenge 2* (the Esprit's been mislaid on the way to the sequel), there's plenty of the former and none of the latter. Eight stages await you, set in a forest, the night, fog, snow, a desert, a city, a marsh and a storm respectively. As usual, the object of each stage is to drive your Lotus Esprit or Elan through a number of checkpoints (how many depends on the stage) in a certain time, preferably also ahead of the other competitors.

Not surprisingly, the practice is a tad more complicated than the theory, given the boulders, sand, snow, other cars, lightning bolts and marshy bits that are strewn around the tracks. As in *Cisco Heat* (page 40) hitting an obstacle doesn't damage your Lotus, but slows you down. You can drive through trees and even skim over water without sinking – marvellously designed, these Lotuses (Loti?). In later stages, time and speed bonuses can be picked up by driving over them.

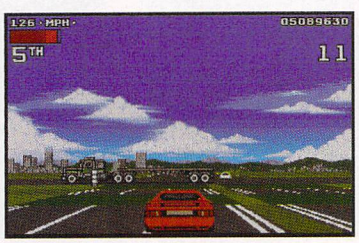
Control is by joystick or keyboard only, though you do get to choose whether you accelerate by hitting the <Fire> button or by pushing forward on the stick. Each Lotus has five gears, changed between with the usual "push forward/back and fire" routine.

Two, three or indeed four players are able to take part simultaneously. There are two two-player modes – one of them uses a horizontally split screen display and the other is achieved by linking two STs together with a null modem cable.

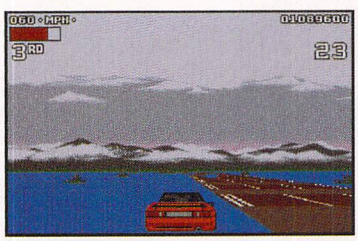
The graphics aren't awful, but put it this way – if they were your girl or boyfriend you wouldn't take them home to meet mother. Some of the atmospheric effects are pretty decent: fog really does look like fog (well, nearly); at night, the road signs loom up out of the darkness, and the snow looks vaguely cold and white. Apart from that, there are a few mountains or city-scapes in the background and a permanent view of the back-end of your Lotus waving about all over the shop. The 3D



● *Lotus Turbo Challenge 2:* more driving about through a forest, a desert, and appalling weather conditions in big fast red cars trying to get there first. (Why *are* they always red, anyway?)



● As if the other cars weren't bad enough, there are these dirty great trucks thundering over the tracks. Time your crossing well. Lotus it may be, but it's no match for a Bedford in full flight.



● You'd think driving across a marsh would be tricky – all that water lurking on every side. Not a bit of it. The Lotus is so light it just skims over the surface. Honest.



● Bloody weather! Why can't they hold these races somewhere hot and dry, like, um, Java? The slightest touch of the wheel in the snowy stages sends you skidding off all over the place.

BEAST BUSTERS



● "Whaddya mean stop shouting? Thanks to your flipping camera-flash I can't see a bloody thing, me 'air's all frazzled off and I've still got the damn film *here.* Course I'm *&^$(* shouting! Now take the shot properly and stop messin' about."

In your best Antoine "Rapido" de Caulle voice say "Maintenant, Activision c'est different. Vive la difference!" Activision might be French now but *Beast Busters* is a Japanese coin-op created by SNK, converted by British developers Images. Small world, innit?

Beast Busters is a three-disk shoot-'em-up, along the same lines as *Operation Wolf.* That's obvious just looking the screenshots. "Abandon hope," shouts the box, prophetically. "Can you handle fiendish creatures and gory doom?" it enquires. Yes! Anything's preferable to the hype.

When the game's loaded, press the mouse or joystick to start. *BB* has a simultaneous two-player mode using two different coloured gunsights. The green cross is controlled by the mouse and the red one by the joystick.

The mouse-user has a definite advantage over the poor sucker – sorry, player on the joystick. You can whizz the mouse around but the joystick feels like it's the handle on a wooden spoon in an enormous week-old vat of congealed porridge. Because of this, two-player *Beast Busters* is team-work rather than a competition between the two of you.

The control method is pretty much the same as the basic plot to the game – all you have got to do is point and shoot. The zombies are up and running and you're their splatterer and leveller. It's just a straightforward question of



● Oh no! It's the Dawn of the Dead Comedians! That's George Formby's bike – I'd recognise it anywhere – and the other bloke is Harry Worth, I swear it. At least they're still managing to bring the house down.



● Lassie in Action – pic 42. Here she attempts to rescue a helpless disabled child from the path of a subway train, having previously communicated with the appropriate authorities to arrange suitable first-aid equipment on site.



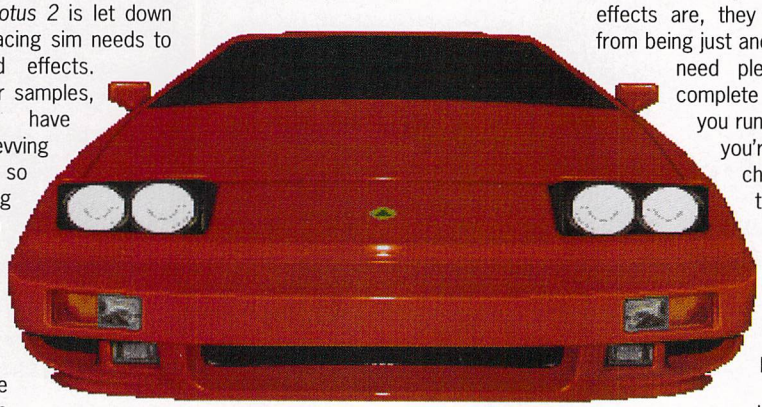
● Tragedy struck the "De-composers Music Society" float in this year's Zombie Carnival. A freak simultaneous blow-out totally ruined their rendition of "Everybody Needs Somebody." Band spokesman later said "Brains!"



● Every scene ends with the obligatory "big baddies" like these two. But they're (nearly) all pussycats. A few rounds of machine-gun fire to the chest and they go to pieces. I dunno, you just can't get good undead these days.

routines are quite solid, with objects appearing gradually rather than leaping out at you all of a sudden.

Unfortunately, *Lotus 2* is let down in the one area a racing sim needs to excel in – sound effects. Instead of opting for samples, the programmers have included a weedy revving noise that's so intensely annoying you just have to turn the volume down. (Actually it sounds better at a lower volume.)



VERDICT: The phrase "seen it, done it" may spring to mind when you first see *Lotus*. There's nothing in it that hasn't been done before (except perhaps driving on water), and even what's there isn't too enthralling. Driving doesn't give you any sense of danger or speed, thanks mainly to the no-collision operation and inadequate sound effects. Instead of interacting intelligently, the other cars just get in the way and become a huge annoyance.

Good though some of the weather effects are, they don't prevent *LTC2* from being just another racing sim. You need plenty of practice to complete the first stage (once you run out of time, that's it, you're kaput – no second chances) and from then on it only gets harder. Some of the later stages (accessed by passwords) have eight or even ten checkpoints.

A challenge it may be, but *Lotus Turbo Challenge 2* is just too average by far to get to the finishing line first.

ED RICKETTS

LOTUS TURBO CHALLENGE 2

GREMLIN – £25.99

- *Vroom* is still first on the grid for sound and realism.
- *Lotus 2* beats *Cisco Heat* (page 40) on the prettiness front, but it's also much more difficult.
- Gremlin's own *Team Suzuki* is faster.
- Weather effects not normally seen. The best *Super Monaco GP* can manage is a grey sky
- More realism than *Continental Circus*, but this means it's not as enjoyable.

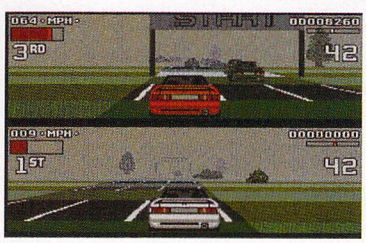
STF RATING 77 %



● **The desert stage is strangely green, considering that, well, it's a desert after all. There are a few token palm trees, though. Sand is your enemy here – it gets bloomin' everywhere.**



● **The intimate way to play a two player game is with a split screen display, but joining two STs with a cable means two players can play on each ST, making a total of (er) six? Or is it three?**



● **Driving about in fog isn't fun at the best of times, but it's sheer hell when you've got someone sat next to you, swearing and cursing because you're taking up most of the keyboard.**



● **This is the point you wish you'd got a dangly thing that drags along behind your car and mystifies everyone as to its purpose. You'll be glad of it when Mr Lightning decides to say hello.**

how far you can make it before some *body* cuts you down.

You start in the town, on a trip through the mall where zombies infest the escalators down to the subway. This first level uses a combination of diagonal and sideways scrolls to get you to the platform below. A subway train full of rotten first-classers pulls in – shoot the windows! Off the zombies before they're off the train.

Splatter-mania takes over by about Level Two – the rush down a long tunnel. Zombies and bats hurtle headlong into you, spewing red lumps of meat into the air as you slice'n'dice. Bullets, extra grenades, and occasionally first-aid, drop out of the sky. Remember *Operation Wolf*? Same deal. Shoot 'em and they're yours.

Beast Busters continues in the same vein (varicosed and ruptured probably!) for the rest of the game. It alternates between a head-on rush and a sideways or vertical scroll.

After the town and subway, the background scenery takes you to a ghost town. Fire hydrants burst when you hit them and there's even a collapsing building. Motorbikin' monsters take pot-shots and Cortina-driving crazies play chicken with you.

From here you go to a river where piranha fish leap out to taste human-fingers. Pathology-lab patients surfing down the sewers lead you to a factory. You meet the obligatory mad scientist with token girlie hostage and guess what – you've got to shoot him and miss her.

VERDICT: *Beast Busters* is hackneyed nonsense – but it's strangely endearing nonsense. It's pure violence in a form that's difficult to take seriously. There are no problems of morality either – unless you're into zombie rights!

It's got all the pap appeal of the original zombie splatter-movies which so obviously inspired it. But I wouldn't pay 26 quid to see all those again – and I don't think I would for *Beast Busters* either.

NEIL JACKSON

BEAST BUSTERS

ACTIVISION £25.99

- A lot more goo and splatter than *Horror Zombies from the Crypt*.
- The dismembered corpses make it more like post *Operation Wolf*.
- Fast, furious action with an *Operation Thunderbolt* style two-player mode.
- Not as tough as the Ops, so it won't last as long
- There's more visceral violence in *Beast Busters* than *Predator 2*

STF RATING 64 %

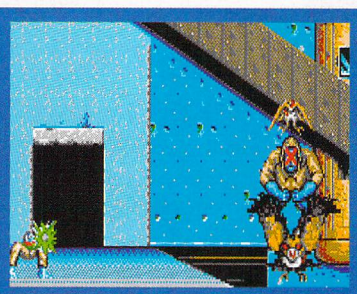
BEAST CHEATING

To smash your way through *Beast Busters* you really need a second pair of hands. That's fine if you've got a friend to help on the joystick, but how do you make it on your own?

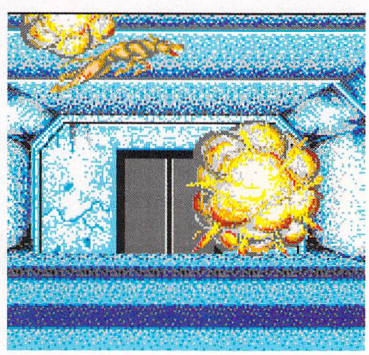
Thanks to a quirk of the ST, there's help at hand – or rather at fingertip. Because the joystick button and the mouse right button are physically wired together on the ST, it thinks they're the same. You can just hit both buttons on the mouse to get a burst of firepower from two guns. The red gunsight (for the joystick) appears in the middle right side of the screen, leaving you with the left side to cover with the mouse.

If your joystick is plugged in, you can move it quickly at the start of each level to cover the region where monsters appear most. It's fairly easy to guess these and get it right – in tunnels aim roughly central, the rest of the time aim over to the right.

You can use the nonexistent second player's grenades by hitting <Caps Lock> and yours on <Alternate>. But your ST can only read one key at a time, so press the grenade-keys separately when launching.



● **Use an imaginary second player to help you on the first lift level. Hit both buttons on your mouse and the bird drops the brown zombie. Meanwhile, you're busy knocking down the creep on the left.**



● **Leçon Un. Voici un chien. Il s'appelle Bruno. Bruno a beaucoup de flatulence. Le vapeur est extraordinaire – n'inhale pas ou vous étes mort, okay.**

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ROLLING RONNY

You can't help liking a game whose manual says things like: "A few well-placed sausages will have the ghosts taking the next train to Spook City." Or can you?

Rolling Ronny is, unashamedly, a platform game. The less-than-static character himself is a would-be errand boy who's been set the task of recovering the jewel boxes that were stolen by a gang during a bank robbery. Strangely, the gang scattered these boxes around the streets of Fieldington – Ronny's town.

Errand boys aren't welcome around these parts and he constantly gets hassled by the town's inhabitants. Cars run him over with no compunction whatsoever and strange two-faced doobries, floating balls and, er, deadly anglepoise lamps try to sap his energy, but it can be restored by collecting bits of food. Some of the foes can be dispatched by slinging lead-weighted salami at them, and other more powerful weapons, like a MegaHonk or a Power Sneeze, can be collected.

Along the way, Ronny's offered errands, such as delivering parcels to a certain address. He's not obliged to take these, but they come in handy for bumping up his bus fare. To finish the level, not only does Ronny have to collect every jewel box, but he has to have enough money to be able to afford to catch the bus. Money can also be collected from vanquished nasties.

Bright, bouncy and blatant is the order of the day graphically. Everything is drawn with slapstick thoughtfulness and colour is used to the max, sometimes too well – the things you're trying to collect often get lost in the background, though this is doubtless intentional. There's not a heck of a lot of animation and the audio effects must have been put together by someone who is cheerfully insane.

VERDICT: *RR* is daft. As a brush. But it's enjoyably daft. There are nine looong levels, loads of bonuses and much to keep you amused, but nothing too taxing in the way of brainpower usage. It presents quite a stiff challenge though, which platform aficionados should welcome. Others might find yet another round of jumping and dodging a little trying. But a game that's a little trying is better than a game that tries little (as Oscar Wilde once said).

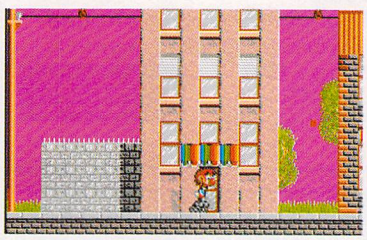
ED RICKETTS

ROLLING RONNY

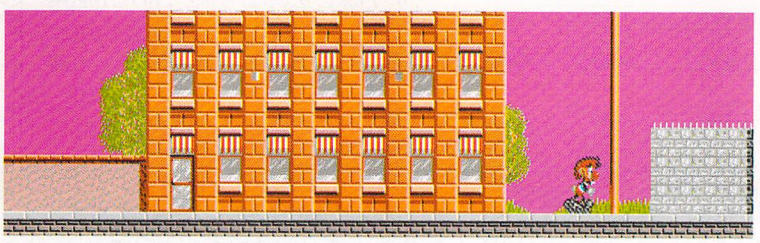
VIRGIN GAMES £25.99

- There's nothing new under the sun. For Ronny, see under *Magic Pockets*, *Flood*, *Elf*, and so on and so on...
- Bright'n'breezy graphics may put you in mind of *Elf* (again)

STF RATING 76 %



● Rolling Ronny is a man who doesn't hang around. Well, actually he can't since he's got roller skates glued to his feet. But he doesn't let it get him down. The cars, buses and birds manage to do that well enough for him.



● The first level is supposed to ease you gently into the game – the nasties are nauseatingly nice, the time timeless (well, nearly), and the jewel boxes perched in eminently collectable places. That's the theory of it, at least. In practice, you still have to be pretty zippy if you're going to finish the level.



● The map, er, shows you where you are. And where you're going. Maps generally to tend to do that sort of thing. The problem is, though, you only get to see it when you lose the game, when, you can't help thinking, it's perhaps a teensy-weensy bit *sans* point.

WILD WHEELS

Football being so popular in this country, it's no wonder there should be a stream of variants on the game – usually violent and futuristic ones. Ocean are having yet another stab by involving another national obsession – cars.

Wild Wheels is a game played on a pitch by five players in each team, each of whom drives a car. The object is to get the metal ball, which is thrown out from the middle of the pitch, into the other team's goal by driving up to it. Touch the ball and it sticks to the front of your car. Then, all you have to do is drive full pelt towards the goal and whack it in by hitting <Fire>. If another player has the ball, slamming into his car usually makes him drop it sharpish, but you can't do this too often because you only have a certain amount of armour plating. Too many bumps and bang – literally – goes your vehicle.

You always control the Strike car. The other (ST-controlled) players on your team have specific roles: Killer cars try to nobble the other team's strongest cars; Fetchers try to get the ball and pass it to you; Blockers stop the other team's Killers from getting at you; and Guards are like goalkeepers.

Occasionally, bonus tiles flash on the pitch with tempting offers like double points. Drive over them to collect the extras. Some of them, like the Acceleration Suit and Full Licence, are necessary for you to be able to drive the more powerful cars.

The sound is actually more impressive than the graphics in *Wild Wheels*. There's a nice meaty revving effect as you bomb up and down the pitch, but the other spot effects are weedy and disappointing. The cars are on the small side but decently animated, and the 3D works well.

VERDICT: *Wild Wheels* is a nice idea that could do with a few more embellishments. Graphically, it's not really up to the job. The cars look too puny and the pitch is quite bare. There's definitely not enough violence – a few knocks put you out of commission easily. Driving takes a while to get used to – the first few games you overshoot and skid about everywhere, while the other team maddeningly piles up the score.

WW is enjoyable enough for a while, and some people will undoubtedly enjoy working through the leagues and hitting the big time. But, on the whole, it's a bit of a missed opportunity.

ED RICKETTS



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WILD WHEELS

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- *Speedball* is slicker and faster, but less immediately playable.
- The cars are closer to those in *Supercars 1* and *2* than the sort of revved-up monsters in *Vroom*.

STF RATING 67 %

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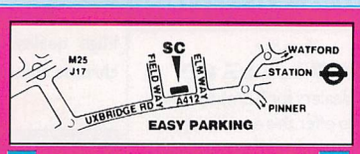
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DEATHBRINGER

You know how it is when you're in possession of a soul-craving sword. You just can't help killing everything in sight. It's not that you *want* to...

Karn the barbarian has just such a sword, given to him through a long and unnecessary plotline. With it, he wanders the world hacking and maiming the inhabitants. He has to do this to get their souls, because it's only when the soul level in the sword is at a maximum that Karn's energy rises.

The levels are connected in a pretty strange but mappable way. They can be exited by either right or left routes, with each exit taking you to a different level. If you know the route then it's possible to skip through the game by the minimum number of levels, or by using just your favourite type of landscape.



● The soul level is represented by the blood on the sword – the farther right it is, the more souls you have. Health is shown by the level of the lighter blue colour on the mirror. Keep those souls topped up or you're in trouble.

Deathbringer has one outstanding graphical attribute – its parallax scrolling. It uses so many levels of parallax the effect looks almost perfect. Each creature is drawn and animated with some care and they all have different ways of hurting you, like the small goblin who lobs a bomb at you and then runs away.

VERDICT: There's not a heck of a lot to *Deathbringer*. Each level is just a matter of moving towards the next, killing numerous creatures on the way to ensure your health doesn't run out. The creatures get harder and the landscapes alter, but that's about the only things that change.

The game's fun for a bit but the novelty of seeing how each creature attacks soon wears off. Unfortunately, it looks as if the programmers have spent the time getting the parallax right without thinking about the game itself.

ED RICKETTS

DEATHBRINGER

EMPIRE £25.99

● Superficially similar to most hack-'em-ups like Palace's *Barbarian*, but it's slower and more deliberate.

● Engaging graphics, slightly less arresting gameplay, but not quite to the same degree as *Space Ace*.

STF RATING 72 %

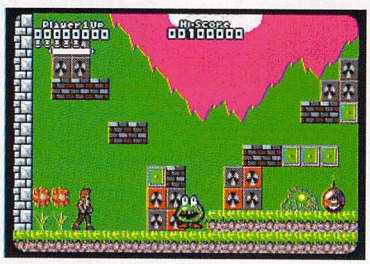
CAPTAIN PLANET AND THE PLANETEERS

Captain Planet is a be-tighted cartoon superhero with a legion of well-meaning but horrible children swarming after him, whose sole objective is to save the world from itself. In this six level platform game, you take the part of various of the 'teers as they try to stop the ozone layer being depleted, save the rainforest and so on. Mostly this is achieved by collecting certain good objects (ozone, for instance) and getting rid of the nasty bits (industrial waste, for one).

The graphics are nothing to shout about, but the main characters are usually well-animated, showing a little more thought than usual in the animation department. Audio-wise, it's the usual rubbish – nowt but sound chip stuff to ruin your earholes.

VERDICT: Yes, all right, so everyone knows the world's being ruined by all the silly people who live on it, but do we really need eco-friendly computer characters to bang on about it? ST games are supposed to be about violent death, not weedy ideals. An irresponsible attitude it may be, but a game loaded with such sanctimonious righteousness as this really gets up some people's noses. As a game, it's nothing special – a simple six-stage collection of platform and shoot-'em-up styles. If this had a less holier-than-thou attitude, most people wouldn't give it a second glance. Don't be fooled by the trendy ideas; underneath them, there's a bad game waiting to get out.

ED RICKETTS



● *Captain Planet (and his Planeteers)* are here to save the ozone layer, seals, ancient Egyptian relics, rainforests and virtually everything else that looks as if it might be even a bit endangered.



● The first level is set in a rainforest threatened by nasty Hoggish Greedly. Chuck hearts at the plants to make them grow, then ruin them by clambering all over them. Pointless or what?

CAPTAIN PLANET AND THE PLANETEERS

MINDSCAPE £25.99

● Derivative of almost any other platform game you might care to mention: *Magic Pockets*, *Verminator*, *Elf*, and so on and so on...

● Like MicroProse's *Rainbow Warrior*, the game's distinct jumped-on-the-bandwagon appearance may put you off.

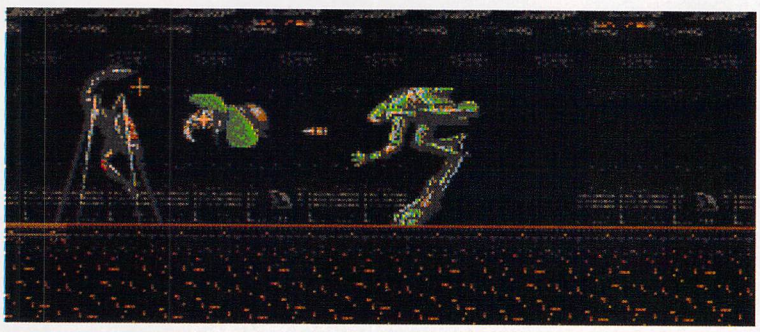
● Character graphics like those in *Tom and the Ghost*, but better animated.

STF RATING 61 %

ROBOZONE

Choosing a career as a "road cleaner" probably isn't at the top of most school-leavers' lists. They don't know what they're missing. There's the smart uniform for starters – a five ton, heavily armoured exo-suit. You get all your cleaning equipment supplied, too. Lasers, grenades, rocket launchers – everything you could possibly need to clean up the streets of a futuristic New York City.

And it's not Mars Bar wrappers and empty Coke cans that you pick up, either. The street trash that you wage war against in *Robozone* are giant mechanical meanies, and they don't run on unleaded petrol.



● Now, now, boys. If you don't stop making a mess of the planet, I'm afraid I'm going to have to recycle you with my plutonium-powered nuclear cannon. You don't want to end life as a set of hub caps, do you?

Level One involves finding your way through the subway system. You're armed with the 21st Century equivalent of a pea-shooter. There are meaner pieces of hardware – as well as much needed energy – to collect. It seems that the more appealing the weapon, the worse it is. Grenades fall at your feet, rockets take too long to fire. Forget these pick-'em-ups. Get a better set of bullets and stick with them.

Level Two goes 3D. It's basically a maze. You have to find your way out, avoiding the scavengers that infest the place. Level Three changes to a proper shoot-'em-up. Blast your way through yet more scavengers. This level culminates in a blast with the big baddie who's responsible for all the trouble in the first place.

VERDICT: *Robozone* is billed as the first "green" game. This really is a load of nonsense – what's environmentally friendly about blasting robots into lumps of molten metal? No, forget the CFC-free angle, and take *Robozone* for what it really is. And what it is is a multi-stage blast-'em-up. The first two levels are a tedious combination of mapping and blasting. Things are much improved in Level Three. And that's 'cos it's basically an *R-Type* clone.

To get to the good bit of the game, you have to have the patience to play through a lot of dross. Forget about saving the environment. Save your money instead.

ADAM WARING

ROBOZONE

IMAGEWORKS £25.99

Single-sided drivers can only access Level One. Coupon included for Levels Two & Three.

● Mixture of genres, the only decent part of which is the *R-Type* style section.

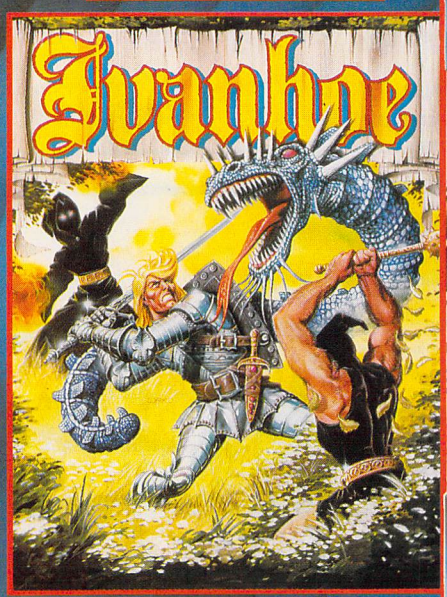
STF RATING 54 %

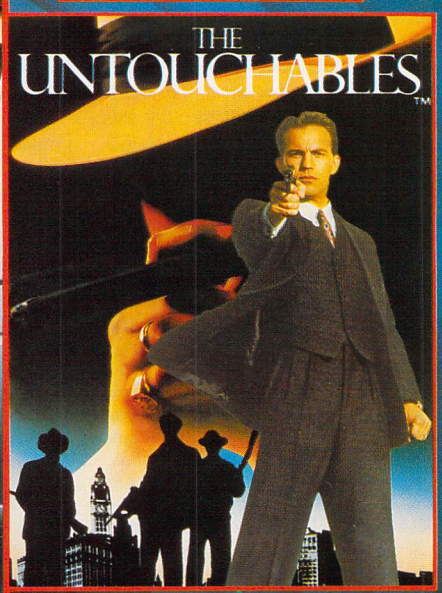
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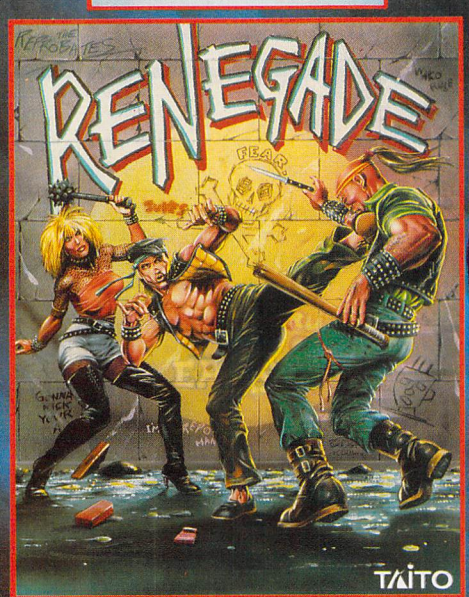


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The Hit Squad

£7.99

CBM AMIGA

ATARI ST

FIVE INTELLIGENT STRATEGY GAMES

This is exactly the sort of software your Uncle and Aunt buy for you, having first ascertained from the young man in the shop that an ST is the same as an Atari and it'll work with your machine.

There are two disks containing Backgammon, Chess, Bridge, Go and Draughts. To play one, you simply select it from the Desktop (ignoring all the attendant files and clutter). So far, it all sounds a bit amateurish, but once the programs have loaded you might be pleasantly surprised by the quality of the goods.

CHESS

None of your 3D views here. The board is shown in traditional 2D, and is all the clearer for it. You've got everything you need to play, including about ten levels of opponent from suicidally stupid to uncannily brilliant, and you can swap sides, get your ELO rating or take back any moves. Oh, it's fairly quick, too.

BACKGAMMON

There isn't much you can do with a backgammon board to liven it up. So Oxford Softworks have shown the standard board with easy-to-see counters on it. It plays a fast and high-standard game (but the algorithms can't be that hard, can they?).

BRIDGE

There aren't any astonishing graphics of the cards here, but it's clear and nicely laid-out in typical North, South, East, West format. You can select how many humans are playing (which involves people going away while it's your turn) and once more your ST seems eminently sensible at it.

GO

An old favourite, with a standard grid and counter layout. It's playable and, again, has skill levels which cater for all players. As good as any decent PD version, but not much better.

DRAUGHTS

This is, er, draughts. No more, no less. Your ST plays a boring, hard-to-beat game and the screen won't inspire you, but that's draughts all over. Simple and fun (if you like draughts).

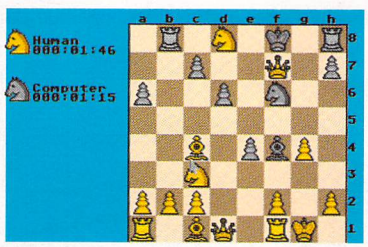
VERDICT: All the programs run in monochrome as well as colour – making the collection an ideal present for that SM124 mono monitor user in your life. There isn't any sound and there aren't any frills, animations or trinkets. You just get the games.

But if you're in the market for strategy board or card games, that might be exactly what you want. They can all be tailored to your own skill level, so you're not on for a major thrashing every time you play. But they're all games you can find elsewhere (especially as Public Domain) and there isn't an enormous advantage in buying them in one box – except that it stops them getting lost.

JAMES LEACH



● **Haven't you always wanted to play chess with farmyard animals as the pieces? Thought not. No idea what that wasp is doing flying around, though.**



● **Of course, a great and agile mind can beat the chess program on its toughest level (ahem). Here, though, it's on incredibly simple.**

FIVE INTELLIGENT GAMES

OXFORD SOFTWORKS
£25.99
Only runs on double sided disks

- Each of these games has been done more snazzily elsewhere. But you get good, honest versions of the games with no distractions
- Only really worth buying if you don't want to scout around the PD scene (and you want to play all five games)

STF RATING 54 %

CRIME TIME

You come round with a head like an anvil being struck by a hammer. You have just a rucksack that somebody's been sick in and an insensible friend called Roger for company. Surely this can't be right?

'Fraid so. *Crime Time* is an adventure game, which was originally written in German, but translated into English. There's a "zany" sense of humour throughout. The character you play is unfortunately a bit of a dickhead, constantly coming out with phrases that, frankly, would be an embarrassment if you ever said them in real life.It does suffer in translation slightly. For instance, attempt to do something the game is not prepared for and it replies, "That would be of no sense." But you can always get the gist of what your ST's trying to tell you.

The game is mouse-driven throughout. Your actions are executed by clicking in a panel at the foot of the screen. This is pretty handy because it means that you can always see what your options are.

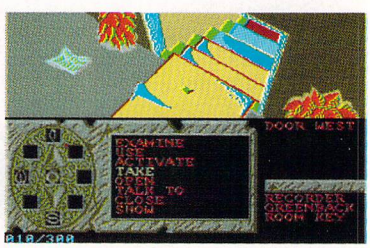
VERDICT: This is an adventure with a difference! The plot is more down to earth and realistic than prancing about pretending you're a pixie or whatever. Since the game is entirely mouse-driven means that you don't encounter problems with mistyping or not getting the context right.

Turn the music down – it'd be fine in a shoot-'em-up but *Crime Time* simply isn't the place. The graphics are, erm, different. Everything is depicted from lots of weird and wonderful angles giving the game a lot of atmosphere. Maybe adventures aren't just for anoraks, after all...

ADAM WARING



● **I'm innocent, I tell you! Make a wrong move and you're arrested and have to spend the rest of your life in jail. (Actually, I think you did it too, murdering scum.)**



● **The graphics in this atmospheric adventure game are unusual. Everything is shown from a weird perspective – every conceivable viewpoint has been used, apart from standing up straight and looking ahead.**

CRIME TIME

STARBYTE SOFTWARE
£19.99

- Off the beaten track from the standard adventure game format like *The Pawn* or *Jewels of Darkness*. A bit weird, really.

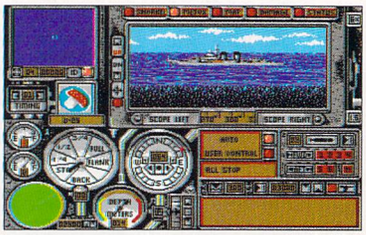
STF RATING 67 %

WOLFPACK

When it comes to simulations, Mirrorsoft reckon they can really push the boat out, but does *Wolfpack* (their latest NovaLogic sim) stay afloat? It's a tough fighter, but going up against *Silent Service 2* in the same month is hard work for the ol' tub.

In the game, you control a pack of German submarines in World War Two, fighting Allied convoys and warships all over the globe. Your display screen shows the inside of a rudimentary boat, fitted out with a map, speed indicator, depth meter and other *Silent Service* type essentials. Trouble is, there's only the one display screen, and consequently everything is packed into a smaller space, making it more difficult to decipher quickly.

Wolfpack's attempts to minimise the number of screens have other side-effects, too. The same basic screen is used for subs and ships – which you can control as part of the two-player duel game – the only difference being one small icon which shows the ship or sub ID. It can get pretty confusing just remembering which of your own vehicles you're on.



● In *Wolfpack* you find yourself at the wheel of a large submarine, asking yourself "how did I get here?" and "surely there must be more game-screens than this?"



● Strategists will love the construction set – it enables you to create as many epic sub-battles as you can think of. 'S funny though, they all look the same.

VERDICT: The action in *Wolfpack* is accurate enough, but the small, rather jerky graphics are dead boring by *Silent Service 2* standards. *Wolfpack's* map screen is so tiny – each boat is a single pixel dot – that there's no real sense of excitement there, either.

Wolfpack's one saving grace is its flexiblility – you can set up your own missions, (right down to the text messages which you use as a pre-mission briefing), and choose any type and quantity of ships or subs to make up each "team." If you're not bothered about ST sound-chip effects and occasional jerky visuals, and you're more into the strategy aspect, you could have fun with *Wolfpack*. But for most of us, there's just not enough variation to make it interesting enough to want to dig deeper.

NEIL JACKSON

WOLFPACK

MIRRORSOFT £25.99

Double-sided drives only
Hard drive installable

● A high snore-factor when compared to *Silent Service 2*, but great if you're simply into strategy

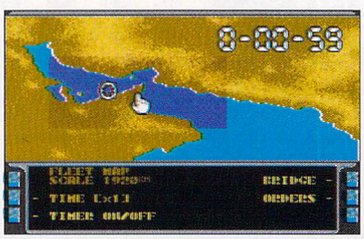
STF RATING 70 %

STRIKE FLEET

In *Strike Fleet*, you're the commander of a battleship embarking on a series of missions in troublespots around the world. Under your command you have one, several or a fleet of ships, depending on the difficulty level you've selected. The missions range from patrolling certain areas keeping the peace to destroying a fleet of subs or intercepting various patrols. Most of the time wholesale destruction is the object.

Ships can be deployed using separate orders or as a fleet. Using the radar, you seek out potential targets and lock onto them. You can either ignore them (if that suits the mission) or blow them from the water using the ordnance you've loaded on board before the mission began. Of course, they fight back, meaning you often need to take evasive action.

The graphics are best described as functional. The sea is represented by a dead flat blue colour and the enemy ships are disappointingly simple. The audio effect for the radar warning sounds like a dog barking and your ship is reminiscent of a steam train.



● Before you can begin blowing the Russkies/Arabs/whatever out of the water, you have to set your travelling route. This depends on the mission you're on and the composition of your fleet.



● Most of the time you're stuck with this incredibly realistic view of the sea and, er, nothing at all on it. Even when you increase the time compression, you spend hours chugging around not doing much of anything at all.

VERDICT: *Strike Fleet* is full of detail, technical stuff and impressive naval waffle. Unfortunately, it's a little too technical and you need to be familiar with so many operating procedures that the game's no fun. Couple that with the long spaces spent doing nothing but floating about looking for something to shoot, and you've got a bit of a loser on your hands.

ED RICKETTS

STRIKE FLEET

ELECTRONIC ARTS £25.99

● Naval sims are in at the moment. Look at *Wolfpack* (above) to see a similar sort of game done with more flair.

● *Silent Service 2* (page 38) beats this on all counts.

STF RATING 63 %

RUGBY COACH



● Sheffield win by courage, strength of character and the judicious use of concealed firearms.



● This is the very nerve centre of *Rugby Coach*. As you can see, it pulses with inactivity and throbs with torpor.

The stadia around Europe have fallen silent. The sods have settled. Yes, the Rugby World Cup saw a lot of mud flying around, as well as a lot of exciting play. But now it's been over for a couple of months, will *Rugby Coach* make your adrenaline pump and your ears swell up in quite the same way? D & H are well known for their strategy sports games. Well known, that is, because they all seem to be pretty similar and there seems to be a lack of action.

Rugby Coach gives you a squad of 15 neckless men in a Third Division side, a bag of money to spend as you will, and a packed fixture list. The idea is to hone your team into one massive rugby-playing identity before which even grown men weep. You do this by flicking from icon to icon on the menu and training, selecting, transferring and motivating your men.

You can faff around with the team to your heart's content. Then, when you're ready, you can either let up to three other human players have a go, or you can advance the days until the next matches are due to be played.

As for effects, well, there aren't any really. A motionless picture of a scrum appears and the results of every match played in either rugby league or union flash up. You can page through these if you're not interested, but it does slow everything up. When your matches appear, you get a newspaper-like result page, showing the scores and who scored them. Then it's back to the main menu. Other historical data can be called up in the form of tables or graphs, but these aren't exactly going to set your pulses racing wildly.

VERDICT: *Rugby Coach* contains a lot of detail, is easy to use but sadly isn't exciting – or even especially interesting. It's basically an exercise in mouse clicking as you wind past the days. If you manage to play out a whole season you would have to be a rugby fan of really frightening intensity.

JAMES LEACH

RUGBY COACH

D & H GAMES £24.99

Can run on single sided disks

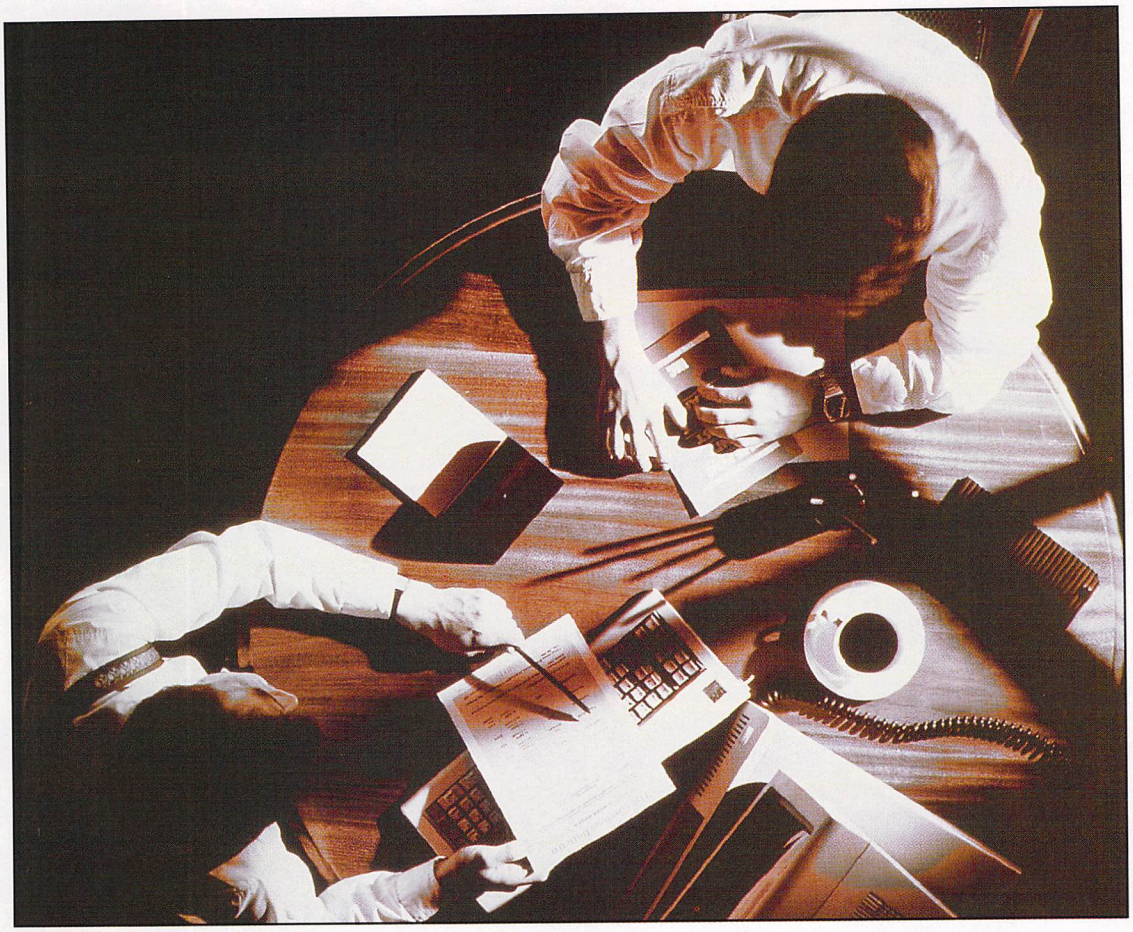
● Lack of action makes *Rugby Coach* look poor compared to *World Class Rugby*.

● Player's names aren't accurate, so you can't follow the "big names."

● Virtually identical to D & H's numerous other football management sims

STF RATING 32 %

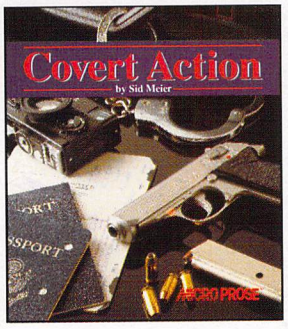
"It's clear from this evidence...



...that we should be playing Sid Meier's Covert Action."

Use your skills in deduction to foil terrorists, spies and criminals around the world.

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Covert Action, for your IBM PC compatibles, Commodore Amiga and Atari ST from the creators of **Railroad Tycoon** and **Civilization**. MicroProse Ltd. Unit 1, Hampton Road Industrial Estate, Tetbury, Glos. GL8 8DA. Tel: 0666 504 326

Disciples OF STEEL

Enter the land of Lanathor , a land fraught with danger and peril. Evil forces, vile and malignant, threaten to overcome the people of Lanathor, forcing them into a new dark age, an age of dread and despair. The old heroes are gone, slain by the very evil that once again threatens the land. The Lords of Lanathor seek new heroes to defeat the hordes of evil.

Can you prove that you are the heroes that they seek? Will you be able to save Lanathor in time? The Evil horde gathers...

VICTORY or DEATH!

Disciples of Steel is a Fantasy Role-Playing Epic with full 3D dungeon exploration and detailed "Birds' Eye" tactical combat. As members of the DOS guild, you can control up to 8 characters, within 9 classes and 8 races. Use them to explore a richly filled world, in an attempt to unite the people of Lanathor in their struggle against the forces of evil that threaten to overcome them.







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FORT APACHE



● **Garbed in timeless military fashion, your task as head of the US Cavalry is to supervise the protection of Fort Apache from the wicked desperados.**

The year is, er, sometime in the last century. The place is somewhere in America. The scene is set (vaguely).

Fort Apache is one of those strategy games which require you to repeatedly click on hundreds of tiny icons on the side of the screen, then click on various pixels on the inevitable battle-map. Yes, it's one of those.

You control the US Cavalry who are based, naturally, at Fort Apache. Various baddies are sneaking around the area, fiendishly planning to attack the railway line to the north. Your job is to protect the trains and repel any bandits who might otherwise rob them.

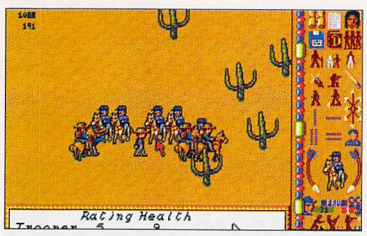
The rail link runs the entire width of the strategic map – about 50 miles in game terms – so you're kept busy watching over it all. Making things harder are Indians (who take exception to your troops galloping with abandon across their sacred burial sites) and natural features like buttes, mesas and mountains. O-level geographers will have a field day (or trip).

Giving orders involves clicking on several icons and figures in the right order. Fiddlesome indeed, but once you're used to it things run smoothly, if slowly. When you're happy with the your orders, click off the order phase and sit back to watch the action. When it occurs, you're informed, and the screen scrolls automatically to it. The scale of *Fort Apache* is such that combat is usually about five blokes on horseback versus eight. Once it's over, you regroup and decide where to move next.

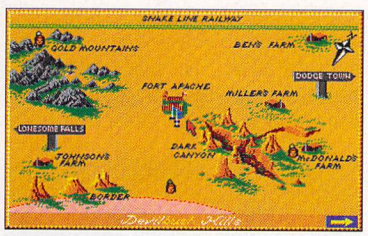
Fort Apache makes some attempt to be atmospheric, with a dusty, Wild West look. This doesn't sit well with the on-screen icons and reports, which just look like icons and reports. The game response is good, which makes it quick to play, but there's little sound.

VERDICT: The scale chosen for *Fort Apache* is a little strange. Most wargames involve thousands of troops. The result is that this is a bit of a non-event. A small detachment of US troops wipes out a series of potential train-robbers while avoiding treading on the corns of traditional Indians. It's hardly *How The West Was Won*, is it?

JAMES LEACH



● **If it's a *fight* you want! Combat in *Fort Apache* is pretty low-key. More like a vigorous physical discussion, really.**



● **Heading 'em off at the pass is easy when you use the main map to plot the movements of your horseriding chaps.**

FORT APACHE

IMPRESSIONS £24.99

- *Fort Apache* is like *Charge Of The Light Brigade* or *Ancient Battles* without the momentous, history-making atmosphere.
- If you're at home with the small scale, it's easy to get into and understand.
- It's fast and responsive, which sets it above many bigger strategy games.

STF RATING 68 %

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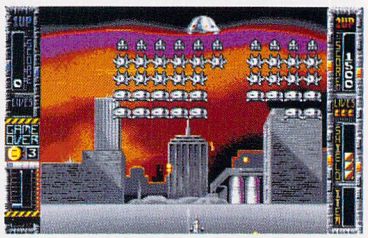
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SUPER SPACE INVADERS

Here we are, almost 1992, 16-bit technology and games like *Epic, Cybercon 3* and *Thunderhawk* knocking about, and what do Domark decide to come out with? *Space Invaders.* Having said that, doubtless many people welcome a return of the greenie meanies.

Everyone knows how *Invaders* works. Waves of the blighters slowly move down the screen in formation, and you, a lone gunman, plug away at them until they're all gone. Then, the next lot are shunted on. Now and again a mothership whizzes across the top of the screen, which, when shot, drops a token that gives you extra powers. This may be faster fire (at the start it's strictly, and frustratingly, one bullet on screen at a time), a row of bases to hide behind (as in the original version) or a time-stop feature in the form of a giant butterfly which flies up the screen and freezes all the invaders.

The graphics have been updated, as well they might. Instead of the pathetic monochrome of the original, you get full colour sprites with beyooti-



● It really does seem like only 12 years ago that the Space Invaders, those original time wasters, were first plodding across those colour-stripped screens. Actually it was 13. Now they're back and they're Super.

ful backgrounds. The animation doesn't seem to have improved much though, and – horror of horrors! – the "thud-thud-thud" sound of the Invaders is hardly audible. Some of the sprites look a bit ropey. When you imagine what could have been done graphically, the graphics in *Super Space Invaders* come as a disappointment.

VERDICT: Frankly, it could have been better. Although the original game was a classic, it was just a teeny-weeny bit boring after 15 or so games. Unfortunately, although this new version has many more interest-holders, there's still not enough to make this a just-one-more-go affair. The long, unskippable sequences at the start and between games don't help either. *Invaders* purists will be horrified at the sacrilege done to their game. New game-players will probably wonder what in space all the fuss was about to begin with. Perhaps the *Invaders* have been gone for just too long to undergo a successful reincarnation.

ED RICKETTS

INVADERS 2 – THE NEW BITS

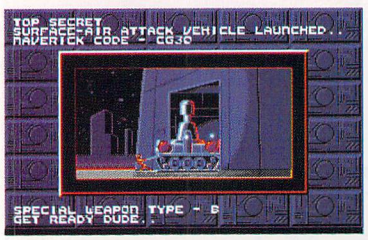
To spice up the original game, the new version has numerous bonus and hidden levels. Each level is made up of three waves of invaders followed by either a massive alien or a Cattle Mutilation bonus level.



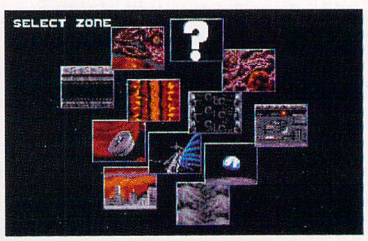
● You can't die in the Mutilation level – just protect the sides of beef from the nasty old invaders before they're taken away to become luxury armchairs.



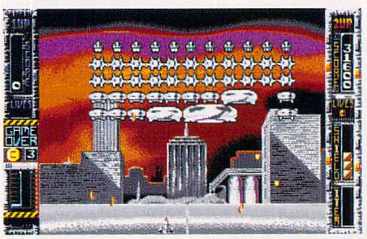
● However, it is perfectly possible to die at the tentacles of an end-of-level alien. As usual, these can only be killed by being hit repeatedly in their sensitive parts, so it's worthwhile making sure you have some extra weapons for these bits.



● In between levels you are treated to a short animated section. These sections, together with the intro sequence, are done in traditional Japanese style, and give the game a very polished look.



● Only zones adjacent to the one you've just conquered can be selected for your next conquest. That means at the beginning of the game you have a huge total of two to choose from. Each zone has a different background and different invader formations.



● The Invaders have changed slightly since they've been away. Some of them have developed a tendency to grow when they're hit. Not only that, they need to be hit a couple of times to be killed if they're in this state.

SUPER SPACE INVADERS

DOMARK £24.99

● The game that inspired virtually every other arcade game doesn't seem so very inspiring now.

● Graphics, sound and gameplay have been improved, but the improvements don't go far enough. Even the ST version of *Encounter* showed more improvements from its origin.

STF RATING 63 %

THE CAPCOM COLLECTION

Before US Gold give up the ghost on ST arcade conversions altogether – preferring instead to concentrate on the more intellectual game-player – they're going all out to make sure that if you didn't buy them the first time around, you will now. *The Capcom Collection* is a collection of their Capcom conversions. Yes, really.



● It doesn't seem to have occurred to Strider that using a machete on a titanium-plated war machine doesn't really have much effect. Still, at least he can have the satisfaction that he's in one of the better games of this underwhelming compilation.

First up there's *Strider 1* and *2,* which sees you battling nasties with a very large machete along hundreds of platforms. Nice animation here. Next, *UN Squadron,* an aerial shoot-'em-up with no morals whatsoever. *Last Duel* and *LED Storm* are both viewed-from-overhead racing games with not a little speed and violence. *Forgotten Worlds* is yet another futuristic scrolling shooter for one or two players. In *Ghouls and Ghosts* you're a mediaeval knight trying to rescue his girlie through a scrolling platform landscape. Finally, in *Dynasty Wars* you're on horseback, hacking your way through more murderous hordes.

Graphics vary throughout the collection from pretty good with interesting animation (*Strider 1* and *2*) to hopeless (*Ghouls and Ghosts*) and all sorts of shades in between. However, none of the effects, either visual or audio, really stand out as anything spectacular in any of the games.

VERDICT: Eight games! Ten disks! What value! Er – not really. There are really only two games here. A scrolling shoot-'em-up (*UN Squadron, Last Duel, Forgotten Worlds, Dynasty Wars* and *LED Storm*) and a scrolling platform shoot-'em-up (*Strider, Strider 2* and *Ghouls and Ghosts*). By far the best of the bunch are the *Striders,* with all the rest trailing very badly. *G 'n' G* and *UN Squadron* are particularly pathetic. All the games are getting on a bit and didn't really set the world on fire when they first appeared.

Unless your second name is Capcom or you're desperate to get a collection of mediocre, overpriced and imagination-free games, forgo the dubious pleasure of this pack. There are far more important and interesting ways to spend your time, like wrestling with Euclidean mathematics.

ED RICKETTS

THE CAPCOM COLLECTION

US GOLD - £27.99

● Loads of games, but someone somewhere forget to include anything you'd want to play.

● For a really worthwhile compilation, seek out the *Rainbow Collection.* It's £8 cheaper, too.

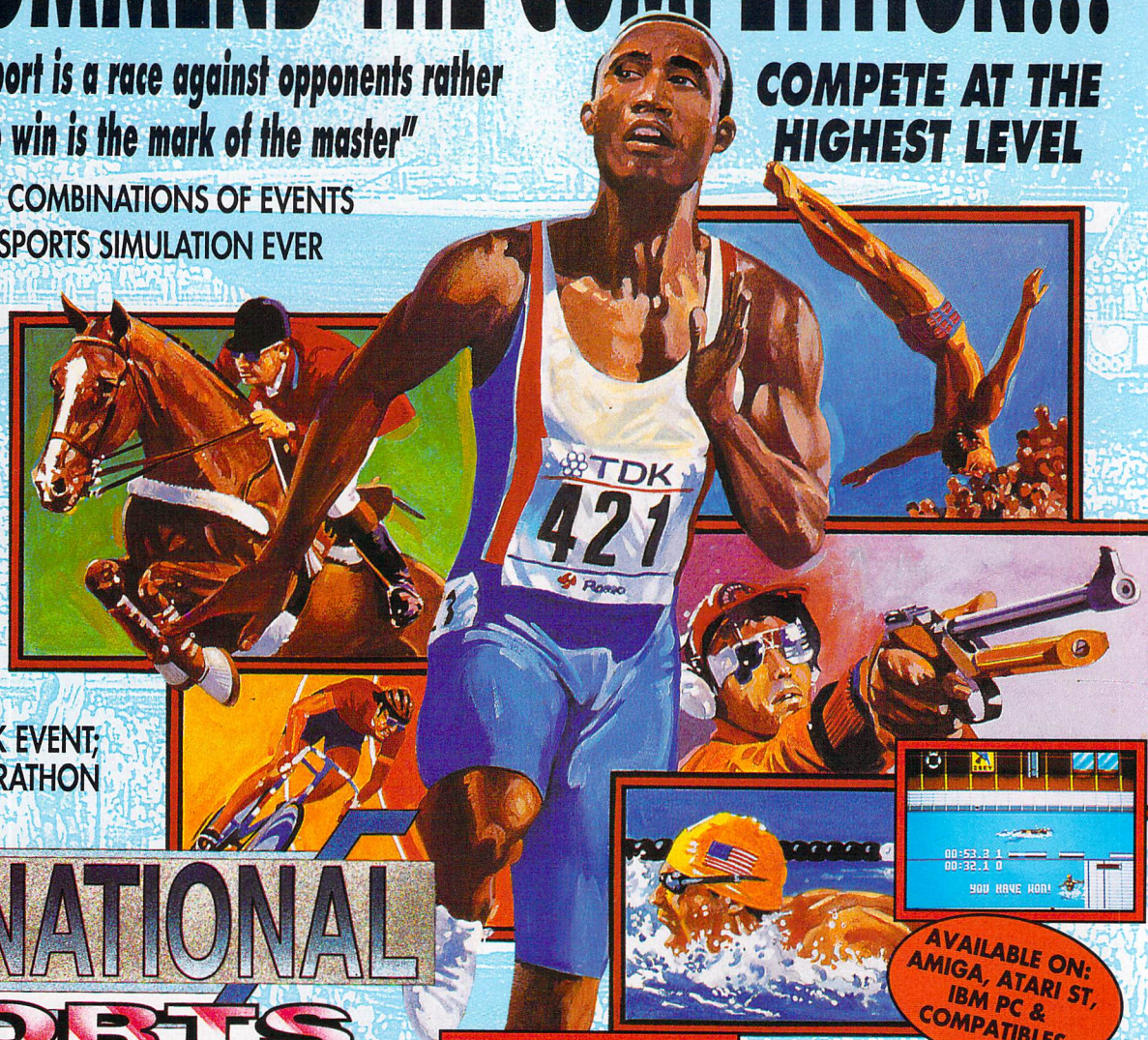
STF RATING 54 %

WE RECOMMEND THE COMPETITION..!

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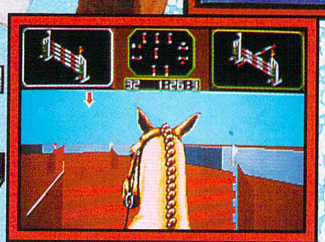
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SCREEN SHOTS TAKEN FROM AMIGA VERSION



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Using 3D vector graphics the unique gameplay combining strategy with sheer powering on the joystick makes this sport like no other sport ever seen on computer.





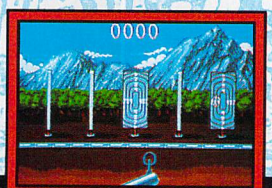
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Knightmare



"You are setting forth into another place, another time, another world," said Treguard, The Dungeon Master. "And what makes you think that you four mere mortals will succeed in the Quest, when so many others have failed?"

I understood, at that moment, that our mission was going to take all our endurance, all our collective skill, and, most of all a depth of courage, that I wasn't sure we possessed.

Ever since ITV's award-winning series hit our screens, the world has been waiting for a computer game worthy of the name. The wait is over.

Tony Crowther's amazing re-creation has everything.

Using the same game system that made 'Captive' adventure game of the year for 1990, 'Knightmare' makes dungeons and dragons games seem like newts splashing around in a muddy puddle.

'Knightmare' is a sophisticated role-playing adventure where you are challenged to solve complex puzzles, logic problems and riddles that reveal a rich, ever-more rewarding storyline.

Your journey takes you deep into the dungeons of Dunshelm, to a cataclysmic meeting with Lord Fear and the unthinkably horrible FrightKnight.

Whether or not the meeting is terminal is up to you. You will need wisdom, tenacity, alacrity and, above all, courage.

But you have all those things, don't you...?

CAPTIVE GAME SYSTEM

BROADSWORD

Available for Amiga & Atari ST

MINDSCAPE

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POPULOUS

A couple of aeons have elapsed and you can now be a Divine Being again. Yes, *Populous* has reappeared as a budget game. Let there be cheering and let the multitudes issue forth into the streets and wave their headgear.

Populous, for those sad individuals who are unaware of it, is a strategy game played out over a series of worlds against your ST. You must nurture your tribe of followers by providing them with land to build on, a religious leader to follow and general good health. At the same time you can muck around with the other tribe.

Volcanoes, earthquakes and flooding are some of the effects that you can wreak on them from Heaven. The other god, of course, does the same to you. As the inhabitants of each world develop and multiply, the power of their respective deities increases. For the early part it's a cold war, escalating into a landscape-battering confrontation which sees the little men who represent the two tribes scattered around like nine-pins. Ideally, yours survive and win the battles against his, thus securing the planet. Time for the next detailed map and fresh conflict.

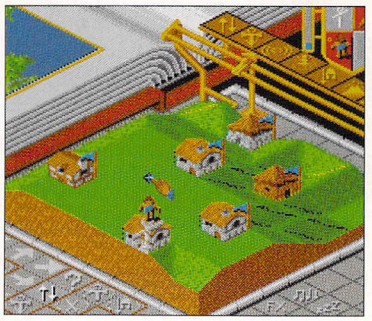
This is *Populous'* strength. The whole game is conducted in one screen format and everything is controlled by the mouse. The icons which surround the screen control all your options, and your power is measured by a moving bar on the right. It takes a while to learn, but you have fun while you're doing it, and once you know how, this and every world is your oyster.

A Tutorial and a Customise option add much to the game. You can set up your own lands from scratch, fiddling with the parameters to your heart's content. You can also connect your ST via a modem link to another, so you and a similarly minded megalomaniac can battle on all the *Populous* worlds against each other.

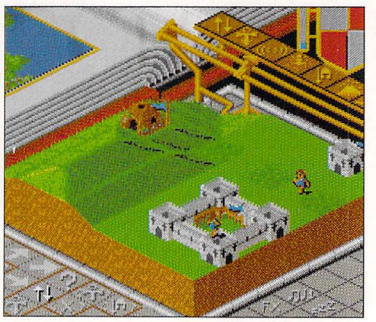
The sound and graphics add a wonderful sense of atmosphere and style to a fascinating and deep game. The combined map and viewing screen look good as well as being functional, and the layout (in the shape of a large book) is a masterstroke.



● **Ahh. The birth of civilisation. It's all so cosy that you really have no option but to visit a terrible disaster upon the people.**



● **Well, what are you waiting for? Build some temples worthy of my name and start worshipping me this instant!**



● **Listen, mortals. I'm God, so jolly well get on and invade your enemies. And no using my name in vain!**

VERDICT: *Populous* was hailed as a classic when it appeared a couple of years ago. Those doing the hailing were absolutely right. It's easy to use but tough to play and it draws you in. The power of being a god is too much to resist. If you haven't got *Populous*, now is the perfect time to rectify this. However, with *Populous 2* now out you might want to spend the extra – look at our review on page 30 to see how far it's come. Buy one of them – at least! – and achieve immortality.

JAMES LEACH

POPULOUS

BULLFROG £10.99

Can run on single sided disks

- The first of its kind. Before *Populous* there was nothing like *Populous*.
- Graphics and effects not as good as in the speedier *Populous 2* – see page 30
- Since then, games such as *Mega Lo Mania* have emulated the approach with a lot of success, but the *Populous* style remains intact.
- It's less fiddly than many icon-driven strategy games, making it easier to learn and quicker to master.

STF RATING 88 %

MICRO MAGIC

Available exclusively from Goodman Enterprises (☎ 0782 335650) *Micro Magic* is a new range of Budget Software. The idea is to bridge the gap between Shareware and fully-priced commercial software – not only on price, but quality too.



● **Looks like it must have been inspired by the film *Aliens*. Despite the rather garish graphics, *Bug Hunt* has a paranoiac atmosphere as you creep around the infested corridors desperately looking for more ammo or one of those juicy rocket launchers.**

BUG HUNT

Yuch! Alien bug thingies everywhere. Quick! Shoot them and run away. *Bug Hunt* is the best of the bunch. You control your macho nutter with joystick and mouse. There's stuff to collect, aliens to waste, buildings to explore, captives to rescue and lots of loud noises to make. There's a set number of captives to rescue on each level – your first task is finding a decent gun and a pile of ammo. The graphics are nothing special but the gameplay's lovely.

£3.95 ***STF* Rating: 80%**

TRAIN SET 2

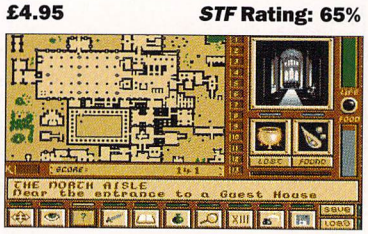
Put away those anoraks – it's not a simulation of train timetable management. *Train Set* is an infuriating and devilish puzzle game. You have four coloured blob-type trains to control and each has to collect its own colour mailbags. You can control each train's speed and direction, and the junctions. Sounds simple? It soon gets frantic as trains seem intent on collision courses. You need to be quick with the mouse and plan ahead. Once you get into it, its addictiveness shows. If you like hectic puzzle games you'll get off on this.

£3.95 ***STF* Rating: 78%**

YNIS WITRIN – ISLE OF GLASS

The 13 treasures of Arthurian Britain are lost and, well, you know the story – one brave soul saves the day again. *Ynis Witrin* is a fairly simple RPG, with magic items and a life force to keep healthy. The graphics are excellent, detailed and atmospheric. Pity it's so easy to die – might take you a while to get into it and start learning where the important objects are. First stop has to be a good weapon and some healing potions.

£4.95 ***STF* Rating: 65%**



● **Not another heroic quest! *Ynis Witrin* is a blend of *Gauntlet* style arcade bits and exploration, all lovingly presented. You guide your chap around on the large map. Clicking on the Magnify button brings up a close-up so you can collect and bash things.**

DATACHESS 2

Not a chess game but a chess database. You can replay over 500 famous matches from the grandmasters of chess. The games unfold before you on a chessboard, as well as in standard chess notation. You can view them rather like a tape recorder – forward and backward, starting at any point. Games can be edited and new ones added. If you're a chess nut with a head for all this, then it's bound to be right up your street.

£4.95 ***STF* Rating 62%**

CIRCUITRY 1 AND 2

Guide an overweight professor around flip-screen platforms collecting bits. Controlling the main sprite is crude and moving it about is slow. The graphics are colourful, but the gameplay very ordinary. One for the younger STer.

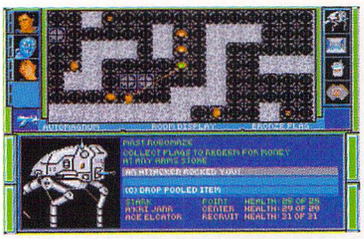
£3.95 ***STF* Rating: 52%**

MAGIC DARTS AND EASY MONEY

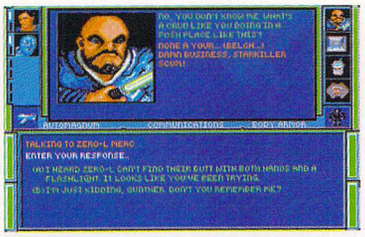
One-hundred-and-... Oh no, hang on, if you look closely it's just over the wire. Unlucky, mate. *Magic Darts* is a straightforward game of darts. Use the joystick to select your target, a blue bar bounces up and down giving you the strength of the throw and a little arrow floats around giving you the drift. It's very easy, but takes time to perfect. Dull, though well presented. *Easy Money* is a fruit machine simulator, except it isn't. Here you end up watching the fruit, bells and bars whizz round and nudging them. Deadly dull again, though beautifully presented dullness.

£3.95 ***STF* Rating 50%**

CHRIS LLOYD



● Here you are having a punch-up with the locals. Typical work for the dead macho Starkiller mob.



● Conversations are a simple multiple choice affair and one of the choices is generally an insult. Text's nice though.

HARD NOVA

You're a roughty-toughty merc travelling the four systems, laughing in the face of danger and generally making a nuisance of yourself.

Hard Nova follows the classic formula of the *Traveller* role-playing game. You bum around the known universe being professionally nasty, initially equipped with a shiny new J-21c Delphenus spaceship and 1,000 credits. After lounging around for a bit trying to recruit a couple more loonies to join you, you're called back to the Starkillers' mercenary base for your first mission. You gain experience and money so you get better at being extremely nasty and can buy better weapons to do it with.

After a while playing *Hard Nova* you wonder where the other people are. Planets seem to consist of a couple of buildings with half a dozen rooms and a population to match. The missions are the usual bunch, blowing things up and delivering contraband against all odds. It's the sort of game that relies on a good logical game world to explore and a set of wargame rules to back it up.

Unfortunately, *Hard Nova* hasn't got either of these. The user interface doesn't help much seeing as the mouse response is sluggish and the keyboard controls illogical.

Graphics and sound are pretty awful. Everything looks drab and simplistic, except for the little cameos of the characters you meet, insult and shoot at. Except, of course, for the occasional ones you're really smarmingly nice to because you want something from them.

VERDICT: To get the most from all this you need to persevere, but *Hard Nova's* not the sort of game that appeals to everyone. If you're after a long term challenge and fancy yourself as a leather-clad person who silences bars by walking in bristling with weaponry, you might get off on it. But otherwise *Hard Nova* is hard work.

CHRIS LLOYD



● You fly about the amazingly sparsely populated planets in your hover ship.

HARD NOVA

ELECTRONIC ARTS
£25.99

● Smaller game world and less complex than *MegaTraveller*. Not any more playable, though.

STF RATING 62 %

FEEBLE EXCUSE CORNER

So where are all those games we promised to review this month, then? *Grand Prix* from Microprose, for instance? Well, although Microprose sent us a version with most of the circuits finished, the sound was missing and so was the intro sequence. The game obviously wasn't in a completely finished state, and *ST FORMAT's* cast-iron policy is to review only the games you could actually buy in the shops. So... next month. Promise.

And where on earth are those Simpsons? Well, Ocean don't send out games for review until they're actually released in the shops, and as we finally wrap up this issue it still hasn't been released. Rest assured that when it's out, it'll be in *ST FORMAT*.

Another World? US Gold reckoned it would be ready, but perilously close to our deadline, and we didn't want to rush the review just to get it in this ish. (Besides, it wasn't ready when they said it would be, anyway.)

And that bloomin' *Deuteros*. Signs were promising that Activision would at last let us have a copy for this month, but unfortunately not soon enough to be included in this issue, 'cos of the way magazines have to go to the printer's a little earlier than the day before they go on sale, and so on and so on...

At least *Populous 2* made it. (Just.)

FORMAT RATINGS REVIEWED

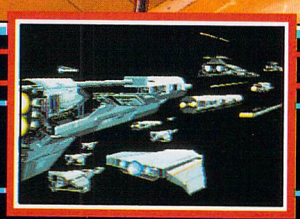
How did *FORMAT* rate the games reviewed over the last three months?

POPULOUS 2	page 30	95%
RAILROAD TYCOON	STF 28	93%
EXILE	STF 28	92%
VROOM	STF 29	92%
THUNDERHAWK	STF 28	91%
UTOPIA	STF 29	90%
Elf	STF 29	89%
Silent Service	page 36	88%
Populous	page 59	88%
MiG-29 M SuperFulcrum	STF 29	85%
Bug Hunt	page 59	80%
First Samurai	page 36	79%
Baby Jo	page 40	79%
Train Set 2	page 59	78%
Manchester United Europe	STF 28	77%
Lotus Turbo Challenge 2	page 42	77%
Rolling Ronny	page 45	76%
Cruise for a Corpse	STF 29	76%
Boston Bomb Club	STF 28	76%
Final Fight	STF 29	74%
Home Casino Poker etc	STF 28	74%
Sarakon	STF 28	74%
Cisco Heat	page 40	72%
Blues Brothers	STF 29	72%
Doctor Fox's 1991 Football Annual	STF 28	72%
Monster Business	STF 28	72%
Deathbringer	page 49	72%
Evilution	STF 29	70%
Rodland	STF 29	70%
Wolfpack	page 52	70%
Shadow Sorcerer	STF 29	69%
Fort Apache	page 55	68%
The Adventures of Robin Hood	STF 29	68%
Grandstand	STF 28	67%
Wild Wheels	page 45	67%
Crime Time	page 51	67%
Five Intelligent Strategy Games	page 51	67%
European Superleague	STF 28	66%
Maddog Williams	STF 28	66%
Face Off	STF 29	65%
Pit-Fighter	STF 28	65%
Ynis Wintrin	page 59	65%
Beast Busters	page 42	64%
Terminator 2	STF 29	63%
Super Space Invaders	page 56	63%
Strike Fleet	page 52	63%
Hard Nova	page 60	62%
Data Chess 2	page 59	62%
Captain Planet and the Planeteers	page 49	61%
The James Bond Collection	STF 29	57%
England Championship Special	STF 29	56%
The Capcom Collection	page 56	56%
Robozone	page 49	54%
Z-Out	STF 28	53%
Circuitry 1 and 2	page 59	52%
Charge of the Light Brigade	STF 29	52%
International Championship Athletics	STF 28	49%
Football Director 2	STF 29	43%
Zone Warriors	STF 28	39%
Rugby Coach	page 52	32%
Indiana Jones and the Last Crusade	STF 29	26%
Moonfall	STF 29	24%

NOTE: Games in red are reviewed in this issue

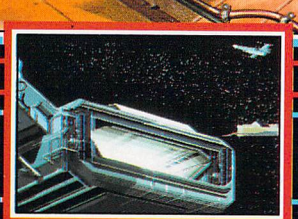
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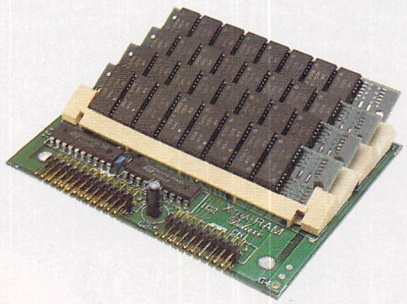
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Choosing a memory upgrade for your Atari ST just got easier!



Once Frontier's XTRA-RAM *Deluxe* is installed in your ST, you can upgrade in stages to 4MB whenever you like - it couldn't be easier. Includes a two year guarantee and a no-quibble ten day money back offer.

Is your ST always running out of memory? Frontier Software's new XTRA-RAM Deluxe is the easy to fit and simple to upgrade memory expansion that you've been waiting for.

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Easy To Fit

Installation of the XTRA-RAM Deluxe couldn't be easier. Following the instructions laid out in our simple to follow manual which is written with the non-technical reader in mind, you disassemble your STFM or Mega ST, plug the XTRA-RAM Deluxe into two places inside your computer and reassemble it. The whole process takes around 1½ hours and most STs will not require any soldering whatsoever.

The XTRA-RAM Deluxe fits <u>all</u> MMU chips (including the 100109) whether they are soldered down or not. If your ST has a soldered down Video Shifter chip or a 101601 type MMU then some soldering will be required. You can do this soldering yourself or Frontier or your dealer can do it for you for a small extra charge. If your ST has a socketed Video Shifter chip and an MMU which isn't the 101601 type, then you can fit the XTRA-RAM Deluxe without any soldering whatsoever. If you need any further explanation of this, contact Frontier direct.

No Need To Stop At 1MB or 2½MB

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TAGGED WITH SUCCESS

When you've written a game like *Bloodwych* you can afford to sit back for a while and bask in glory. But have Tag, authors of said game, been resting on their laurels for too long? Ed Ricketts finds out that they've actually been far too busy with a new project to squash laurels...

Remember the Taglioni Brothers? If the name doesn't unearth any corpses in your memory, it's not too surprising. The Tag Brothers have only written one ST game to date, but what a game – *Bloodwych*.

Bloodwych is the *Dungeon Master* clone that nearly outdid its source, and is one of the few games to gain a 95% rating in *ST FORMAT* (in issue 1, no less). Although it was released over two years ago, it's still very popular and has just been re-released on budget at £9.99.

Given its success, it would have been easy to take the quick way out and write a souped-up clone using the same display and the same routines. Instead, Tag and Pete James – a game designer who happens to do a few graphics on the side – have spent their time developing a new system which keeps the RPG elements of *Bloodwych* but presents them in a different way. Work on *Legend* began in earnest last August after the completion of the *Bloodwych* data disk, though the team had been churning out designs for the game a month before that. Pete had also worked with Tag on *Bloodwych*, so it was a natural idea that he should contribute to the new project.



● **Tag (left) and Pete James. The team is also known as Tag. So it's Tag's Tag team.**

The scenario is familiar. Evil has invaded the land and is spreading like particularly unfettered fire. Everyone else is busy washing his hair so it's down to your party of wanderers to get rid of the evil.

Your party is made up of a barbarian, a troubadour (folk singer to you), an assassin and a runemaster (AKA wizard). Each has his own strengths and failings. As you might guess, the barbarian is very strong and good at fighting. The runemaster is weak but can cast spells. In addition to his normal attributes, each character has a special ability. For the barbarian, this is a Berserker Rage, which means he goes wild and hacks at any monsters in the room. The troubadour, meanwhile, can sing a Bardish Melody during times of trouble. Not much help on the face of it, but each song has a temporary effect on the party: Warriors Awakening increases their strength, as does March of the Bold Ones. The assassin can hide in the shadows, which is another way of saying he turns invisible. This way he can sneak up on the monsters and attack them from behind. Finally, the runemaster has the ability to cast spells.

The gameplay is split into two sections: one at the main map screen – which shows the cities in your land – and the other in the dungeons of these cities. Visiting a city gives you a number of options, depending on what's there. You may be able to visit a Guild, a Tavern, a Temple, an Apothecary, the Blacksmith and the Artificer. Each of these has his own uses, but they all have the common link of using up your money for the services they offer.

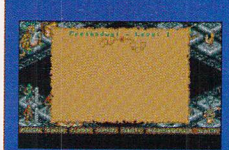
The only way you can enter the dungeons is through the Guild. The display then changes to a 3D view of the room you're in and you're plunged into a section of exploring, killing monsters and solving puzzles. The characters are controlled individually. Just choose one and give him an instruction, such as taking an object, searching something in the room or fighting any monsters

ROBBING HOODS ON PLINTHS OF EASE

Much thought has been put in to make the control icons fit in with, and look as good as, the main display.



Click on the bag to see the inventory for each character. Also displayed are his attributes, level, steed (which affects how quickly the party moves on the map screen), experience, hit points and gold. This is the place to equip, drop objects or save the game.



Eliot the dragon draws the map for you as you wander about. Click on him to see it (and pause the game).



Select the character you want to control from these plinths. The skulls show how many hit points each has.

Actions available. All but the last are common to every character. The last is that character's speciality – "Bardish Melody" for the troubadour.

The arrow points north – nothing spectacular, but it helps you orientate.

If you find the monsters too much, click on the chicken to run away. You keep running until you click the Rally icon to stop. The chicken starts squawking and flapping its wings just to remind you what a coward you are.

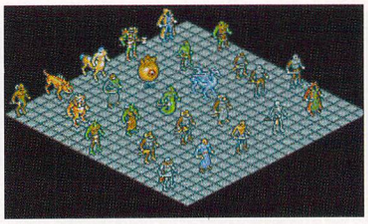
This plinth shows any magic item the character has equipped.

The Rally icon makes every character move around the selected character. If he's fighting, they join in too.

These plinths show what the character is holding in each hand – usually a weapon and a scroll.



● Some rooms have special symbols on the floor or levers and buttons on the wall. Working out what does what to what provides a puzzle element to the game. The note on the wall reads "Reforge thy bones," so you can probably guess what the button does.



● Some of the monsters you meet. Obviously in the earlier stages of the game the nasties are quite easy to kill, but don't be lulled into a false sense of security. As you get deeper, you need all your strength and magic to get the better of the creatures you encounter.



● Enter the dungeon through the Guild. Here you can also rename your characters or train up to the next level. This can only be done when you've gained enough experience points by killing monsters in the dungeons, but it's worthwhile – you get more hit points.



● Visit the blacksmith to buy more hardware with the gold you've got from killing monsters, or sell off your obsolete stuff. It's hard to tell what weapon is more effective in battle – a battle axe, for instance, sounds more devastating than a broadsword, but it's not.

that happen to be present. Each dungeon may have several levels and you can be sure that getting to the lower ones is no simple job.

The dungeons aren't just there to provide a bit of monster bashing. Each has a goal which, when achieved, gets you that little bit further towards the overall aim of ridding the land of evil. Finding the goal of the dungeon and progressing to the next logical one are parts of the puzzle.

Each dungeon level is potentially 16 x 16 rooms large. There are 23 of these levels, each with around 16 genuine rooms, so that's 368 rooms to begin with. Add in the randomly-generated rooms and the connecting corridors, and you're looking at a total of over 1,000 places to be searched.

If you think those stats are impressive, consider the spell system. Tag reckons there are a total number of 2 x 10^{18} spells that can be cooked up with the existing runes and ingredients. Of course, a lot of these are useless; probably only a few thousand are any good to you.

There's really nothing startingly new or innovative in *Legend*. Each of its constituent parts has been incorporated in other games many times. It's the way these parts mesh together that makes the game potentially something rather special. It's like *Dungeon Master* combined with a mini wargame, with role-playing and a spell system thrown in for good measure. The spell system in particular is an interesting way of implementing something which in similar games is usually either very simple or obscurely impenetrable.

Both *Bloodwych* and *Legend* can be described as RPGs. Does Tag have any plans to write different sorts of games in the future? It seems unlikely. "We write games that we would want to play, and they just happen to be RPGs – games that give you something to think about and have a long-term aim."

The game's still in beta testing at the moment, and the full thing should be released next month. If the unfinished version we've seen is anything to go by, it's set to become as much of a long-running favourite as *Dungeon Master* and *Bloodwych* alike. ***stf***



● You can't make one character leave the room on his own, because the rest of the party automatically follows. There's no reason why you shouldn't assign different tasks to each within a room though, such as searching all the places of interest.

LEARNING TO SPELL IN 2 x 10^{18} EASY LESSONS

The spell system looks complicated at first, but once you know how everything works it offers amazing flexibility– and an amazing range of spells. Spells are made of runes and ingredients. Four of the runes are used to specify the spell's movement (Forward, Missile, Surround or Continuous) and the other runes its effects: Damage, Heal, Disrupt, Vivify and so on. You must use the right ingredients with each rune to make it work. Any number of runes can be used in one spell, so, for instance, you can create a single spell that heals the sender, launches double-damage missiles in eight directions at once, and then launches another eight double-damage missiles from the monsters that were originally hit. The one limitation is that only the Runemaster can mix and cast spells. Where do you find a Runemaster when you need one?



The scroll shows you what spells you've already made.

Clicking on the mixing bowl brews up another batch of one of these without you having to re-mix the ingredients.



Click on the eye to see the runes you have and their effect.

Runes can only be bought from the Ancient in the mountains.



Click on this to mix the selected rune and ingredients.

Click on one of these runes to add it to a spell, then on your selected ingredient to add that.

The ingredients you've got and the amount of each. These can be found in the dungeons or bought from an apothecary: wing of bat, brimstone, mandrake, crystal, hedjog venom, dragon tooth, nightshade and phoenix claw. Must be a lot of pedestrian bats and dragons with dentures wandering around...

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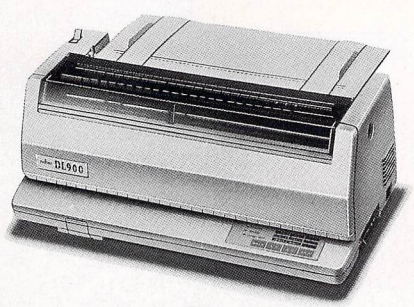
Can you expect really high quality print output, for instance? Well yes you can. The DL900 is a 24-pin printer with a speed of 180cps.

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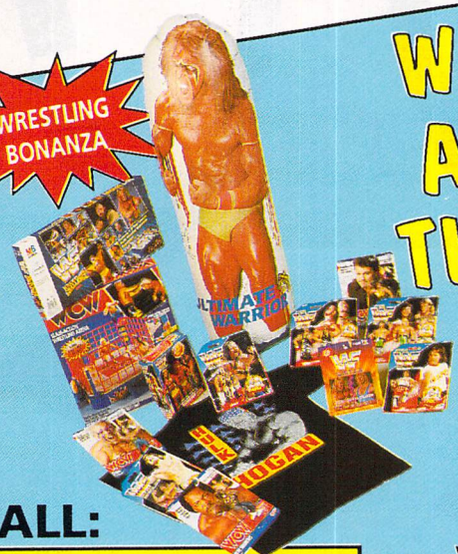


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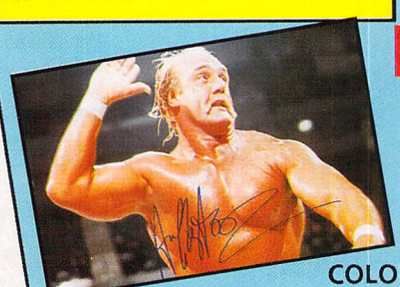
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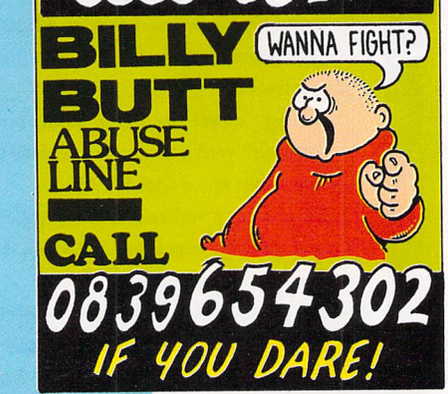
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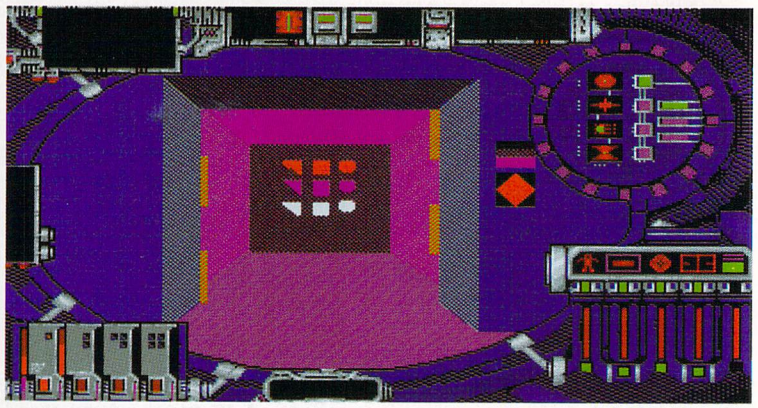
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Gamebusters

"Huge they were, sweeping down from the hills with glaring eyes, yellow teeth and only one thing in mind: to ruin the game you've been playing for the past two months. Tips! Hordes of them!" Thus spake the old man with the strange accent and the multi-coloured anorak



● **Hide in the lifts. Try not to worry about being called a craven, weak-kneed, lily-livered, spineless fainthearted coward. Ignore the shouts of "Wimp!", "Chicken!" and scaredycat. Get used to wearing a paper bag over your head. On second thoughts, it's probably a better idea not to hide in the lifts.**

PRIZE £50 WINNER

CYBERCON 3

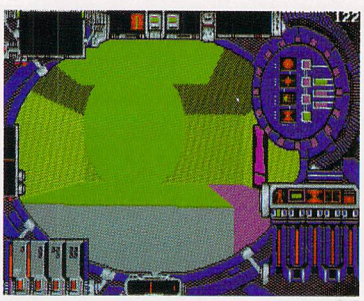
US GOLD

Trevor Coope of **South Yorkshire** has been bashing away at The Assembly Line's fiendish piece of work for a while, and has actually completed it. Because he's such a nice fellow he's decided to help out everyone else battling away with this most frustrating of games. And he's scooped this month's £50 prize.

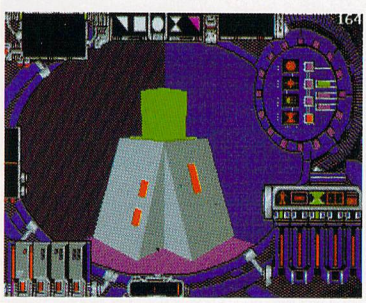
The tips are divided into sections, starting off with general hints and working towards specific solutions. If you don't want to know too much, don't read the last few sections. Trevor said he didn't want to give away a complete solution since it wouldn't be fair to The Assembly Line or anyone else struggling with the game. Fair enough.

GENERAL

1. Spend some time at the beginning of the game getting used to the Power Armour, because it's important that you're not fumbling about trying to find the Plasma Gun when a couple of robots are trying to fry your bottom.
2. When repairing the Suit, always recharge the Auto-Repair unit first, then the Power Assist and the Plasma Gun, followed by the rest. This way, if you need to run for it you might just survive.
3. Don't destroy the green sphere in the room at the start of the game. Use the ETP to recharge your batteries from it.
4. Don't go stomping around blowing up robots. Try to discover how many shots it takes to "wound" them. They start sparking and chucking out bits of kit like fuel cells (red balls), field generators (small green pyramids) and batteries. Batteries come in two types – red oblong boxes or spherical things that look like boiled sweets which are fusion batteries. Get everything and experiment.
5. Fuel cells can be detonated like bombs using a key code. Dial in a red circle, stand back, initiate the sequence and – well, you can probably guess. This technique is useful for laying traps, but make sure there aren't any fuel cells near you when you do it.
6. Remember, Angel droids use lifts too, so don't rely on hiding in them for too long. Although a droid never enters a lift while you're in it, it often happens that you open the doors after a long bout of recharging only to find a long line of Angels queuing to get it.
7. Make it a priority to collect two more batteries as soon as you enter the complex. Discard the red batteries in favour of the green fusion ones as soon as possible.
8. Use generator rooms (they have an orange circle on the door) to recharge and repair your Suit. They are never visited by droids.
9. Some droids seem to detect movement, some detect your gun firing, and others don't attack if you're out of their way and have all your systems switched off.
10. Try to use the defence shield sparingly because it drains power at an alarming rate. If you need to run past fixed gun positions or some of the giant droids, switch off everything except the Power Assist to give yourself greater speed.
11. Use doors as shields when moving around. Open the door (by standing in front of it), shoot the robots or gun positions, step back until the door closes and the door protects you from the blast.
12. Interrogate every object or piece of equipment you come across, discover its key code and activate it. That way you find out what can be used, switched on or off, or detonated.
13. Use field generators to block passageways. First, recharge them using the ETP (but be careful because it drains your batteries). Stop when you hear the "fully charged" whistle. Interrogate it, pick it up, drop it where you need it, initiate the key code and watch. It's very satisfying to see the robots destroy themselves against it.
14. If you need a key code to open a door, check after passing through the door whether you need a different code to open it from the other side – some doors do.
15. Map out the complex, either on paper or mentally, and make a special note of where the Save Game rooms are. Apart from their obvious benefits, these are the only rooms where you're absolutely safe.
16. Use more than one Save Game disk. If possible have one for each Save Game room you use. This way it's easier to recheck a section of the complex for rooms or objects you may have missed than it would be to walk or fight your way from the other half of the complex.



● **The green sphere is your friend. Talk to the green sphere. Fondle its smooth curves. Polish it until it shines. Bring it presents of incense and bowls of fruit. Tell it stories of faraway lands and strange peoples. On the other hand, you could shoot it until it explodes.**



● **Contestant number one, you have two minutes to turn this Square Green Key Code into a fully automatic kitchenette unit with cupboards, matching worksurfaces, complimentary cutlery and mock Butterfly Wing wall-coverings. Starting from...**

MORE SPECIFIC

1. To complete the game you must locate the yellow key codes and square, triangular, circular and hourglass shapes. There are also four puzzle shapes to collect, which must be slotted together to form a cube. This unlocks the secret doors to Cybercon's brain.
2. Use the Parrot camera; it's an invaluable piece of kit. There are a couple more dotted around the complex. Hide in a lift (if it's empty, of course), a generator room or a Save Game room, and send out a Parrot to check the road ahead.

When flying the Parrot into an unexplored room or corridor, make an immediate 360° turn to check it's safe. Some rooms have floor traps. Use the

Parrot to activate these by flying close to the floor. In other rooms there are large gun emplacements which can be hell to destroy. Again, use the Parrot to see if the gun can be destroyed from a room or corridor below.

3. Some swivelling wall-mounted guns can be turned off using the key code of red square, red circle and red triangle. To do this, turn on all power banks, dial in the code, put up your shields, run into the room with the gun and initiate the key code. If you're lucky, the gun stops firing and follows you as you walk about. Blow it up. Be careful, though – it doesn't work with all guns.

4. Some pillars can be pushed aside to access hidden rooms below them, so check before leaving the room.

EVEN MORE SPECIFIC

1. When you reach a room with four door panels in the floor, open all doors before choosing one to enter. This way you can exit via a different door.

2. Once inside, look for a deep shaft. Peer over the edge – if there is a diamond pattern on the floor, jump down the shaft onto it. A large gun constantly fires at you, but if you stand on the diamond pattern you're protected by a forcefield. Destroy the gun and walk towards the gun platform to find the secret room.

3. If you meet a dog-shaped droid with two bazooka guns mounted on each side of its head, shoot it and don't stop shooting it until it's destroyed. Or else run away very fast.

4. The huge evil-looking Angel droid with horns that stands alone in its own room is a real pain. It can only be destroyed with four or five direct hits with the bazooka. When it switches off, push it to one side to reveal the room below. Don't forget to keep the two service hatch doors open (the ones marked with a chevron) with Parrot cameras, or you're attacked by the kamikaze flying bombs.

5. When you have all four pieces of the puzzle, slot them together in the following way. Throw one part on the floor, approach it until it flashes in a vacant slot of the icon strip and use the < and > keys to slide another part of the puzzle in your backpack over the one on the ground. Press the Spacebar to throw the part over the one on the ground. If it doesn't fit, try a different piece. You should eventually end up with a cube with a black hourglass on it.

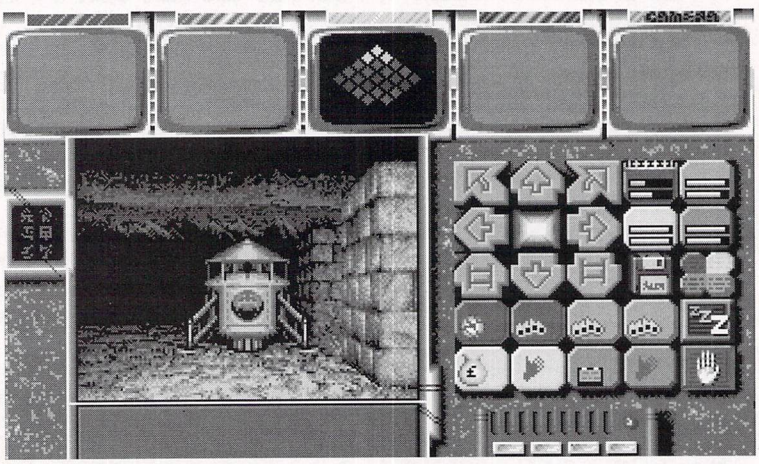
6. When you've assembled the puzzle cube, you've almost won. Throw away the bazooka and the blue key codes are loaded automatically into the bazooka slot. Now return to the large column at the start of the game. Stand on top of it, dial in the blue key code you see written there, and initiate the code. Don't panic! You survive if you don't run. Look for the concealed door, pass through a couple more hidden doors to get to Cybercon's brain and shoot the sucker.

LEMMINGS

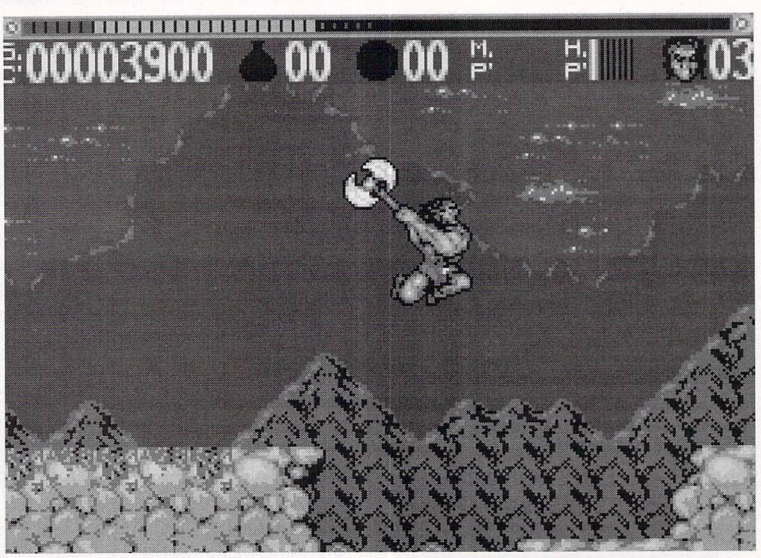
Psygnosis

Geoff Jones of **Lincoln** does have a point. He says that, although we asked for the flow of *Lemmings* codes to dry up (and indeed they did), we've never printed the two-player codes. So, for the sake of completeness, here they are. (But this is positively, absolutely, the last time we do any *Lemmings* codes.)

LEVEL	CODE	NAME
1	JAJHLDKBMQ	There can be only one
2	IJHLDKJCMJ	Still everything to play for
3	NHLDKJADMW	In the thick of the fray
4	HLDKJINEMP	Game on! Choose your tactics
5	LDKJAJLFMY	Good game! Good game!
6	DKJIJLLGMR	The Rubbish Dump
7	KJANLLDHMO	And the winner is...
8	JINLLDKIMX	Any chance of a truce?
9	JAJHMDKJMJ	The Pipe Room...
10	IJHMDKJKMS	The Rope Bridge
11	NHMDKJALMP	Just for fun or to the death?
12	HMDKJINMMY	The Crystal Cavern Mark 2
13	MDKJAJLNMR	Cross-over point
14	DKJIJLMOMK	The Passing Place
15	KJANLMDPMX	Take what you can, when you can
16	JINLMDKQMQ	The Hammock...
17	JAJHLFKBNT	Graffiti
18	IJHLFKJCNM	Islands in the Sky
19	NHLFKJADNJ	May the craftiest player win
20	HLFKJINENS	We're in this one together



● **There's not an enormous number of things you can say about *Captive*, the game that's already been tipped to death. In the words of the poet: "Cfetr kjlloi skjfhiii. Monert poiyuiu, wert srty plley *Captive*, monert nimm. Twi! Smipp lem."**



● **Some prankster has replaced Torvak's normal head-splitter with an inflatable version filled with helium, but the poor fool hasn't noticed any difference. It's only as he reaches the upper stratosphere that he begins to get worried.**

STARGLIDER 2

Mirror Image

With the rerelease of this classic on budget, a whole new generation of gameplayers are about to be frustrated by it. To help out anyone who's just bought the game, here's the cheat mode. Stop the ship and press Delete to pause the game. Enter the words WERE ON A MISSION FROM GOD1 (with the spaces and the 1). Your energy levels should drop to half and pressing K from now on tops up your fuel, energy and shield, as well as giving you the maximum of each weapon.

F-19 STEALTH FIGHTER

Microprose

If you're finding it difficult flying at night and want to change to day, just press Alternate-N to switch between the two, without affecting your score. Thanks to everyone at the Spud-U-Like in Norwich for that one.

CAPTIVE

Mindscape

This is a quick way to build experience points for your robots. Go through the normal procedure of hacking down monsters until all four robots build up lots of points. Click on the section that enables you to convert experience points into skills, and increase the skills you want. Transfer the Droid chip to the second droid and use his experience points to put your skills up.

Repeat this process with the next two droids and continue through the game. You now have a droid who learns skills four times as fast. We found this tip lying in the gutter, bleeding to death, and took it upon ourselves to rescue it.

TORVAK THE WARRIOR

Core Design

Enter CHEAT and as many full stops as you can fit in on the high score table. Now hold down <Fire> and press one to five to be moved between levels.

GEM'X

Demonware

Here are the level codes up to S:

B – EARTHIAN	O – SYVALION
K – TURRICAN	G – NETWORK
C – KENICHI	P – FMTOWNS
L – REDMOON	H – YOKOHAMA
D – INOKUMA	Q – CHIERIE
M – CAMPAIGN	I – EXACT
E – BURAI	R – GAMERION
N – MAGAMANN	J – X68000
F – BADMAN	S – ZAWAS

SPACE MUTANTS™ ARE INVADING SPRINGFIELD!

That's right man!
A buncha slimy, horrible, totally gross and putrid monsters are taking over the bodies of the people who live here and they wanna build a weapon that's gonna take over the entire planet!

PRETTY COOL HUH?

Anyway, yours truly is the only one who can see 'em!
I've gotta spray-paint things, get radical on my skateboard, use my trusty slingshot, and in general behave like a nuisance, man. Plus, with evil dudes like Nelson the bully and Sideshow Bob getting in my way, it's a good thing I've got the rest of the Simpsons to help me out!
So if you're a decent person a patriot, and somebody who cares about this sorry planet, you'll do the right thing.

BUy THiS GaME!
Thanks man.





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● **Try inventing some violins in *Mega Lo Mania*, if you can find the right ingredients. You'll also need to invent some stuff to put on the bows. Try Epoch-sy resin.**

MEGA LO MANIA

MIRRORSOFT

More handy hints and terrific tips from those kind-hearted people at Mirrorsoft. Last month it was Epochs 1, 2 and 3; this month, Epochs 4, 5 and 6. Next month, Epochs 7, 8 and 9...?

1. Epochs 4 and 5 are generally full of long drawn-out tactical battles as the instantly made weapons with gatherable elements all but disappear. Be patient and build slowly before attacking.
2. Alliances are more important in the later levels. Try to ally with the strongest opponent as often as possible.
3. On Karma, the landscape forces you to work around the entire ring. Try to keep all your sectors adjacent to one another and pour all your armies into your two bordering sectors.
4. Cannons are very important in Epoch 4 and the single island in Epoch 5.
5. Lada is a very tricky island. You may need to use more men than usual at the start and try to ally with at least one of your neighbours immediately.
6. In the long and drawn-out battles in Epochs 4 and 5 the use of shields to help rebuild your towers is absolutely essential.
7. On any multi-island levels, the use of aeroplanes and, later, nukes is essential to win. Try not to waste all of your minerals on non-flying things or you could find yourself in a losing or stalemate situation.
8. Nausea is a particularly hard island to conquer at first, since it is the first of the split levels. You must own either the bottom left sector or the south island. The far right sector of the south island is also useful for biplanes, to top up your force.
9. Ocarina is impossible to win unless you use slightly more men than usual and make a very quick attack. Once

EPOCH 4

JUNTA

		WOOD ARALDITE ONION	
MOONLITE YERIDIUM MORON	PLANETARIUM PALADIUM ONION	MOONLITE BETHLIUM YERIDIUM PARASITE	YERIDIUM TEDIUM MORON
SLATE BETHLIUM ONION MORON	ROCKS VALIUM ONION	ARALDITE PARASITE MORON	SLATE HERBIRITE VALIUM
		WOOD MOONLITE YERIDIUM AQUARIUM	

KARMA

WOOD SLATE HERBIRITE AQUARIUM	ARALDITE PARASITE MORON MARMITE	MOONLITE YERIDIUM PALADIUM TEDIUM	ARALDITE AQUARIUM ONION
SLATE BETHLIUM YERIDIUM PARASITE			BONES PLANETARIUM ARALDITE
ROCKS ARALDITE HERBIRITE MORON			VALIUM AQUARIUM TEDIUM MORON
SLATE YERIDIUM PARASITE	BETHLIUM YERIDIUM TEDIUM	ARALDITE HERBIRITE TEDIUM MORON	ROCKS YERIDIUM MORON

LADA

ROCKS YERIDIUM MORON MARMITE
MOONLITE YERIDIUM MORON
WOOD ROCKS HERBIRITE PALADIUM
BONES MOONLITE PARASITE MORON

EPOCH 5

MANTRA

BONES AQUARIUM MORON	PLANETARIUM ARALDITE TEDIUM MORON	WOOD SLATE ARALDITE ONION	
WOOD AQUARIUM ONION MORON	MOONLITE YERIDIUM TEDIUM	PALADIUM ONION MORON MARMITE	WOOD YERIDIUM AQUARIUM
PLANETARIUM HERBIRITE ONION	ROCKS MOONLITE HERBIRITE	SLATE ARALDITE ONION	HERBIRITE PARASITE PALADIUM MORON
	MOONLITE ARALDITE MORON MARMITE	WOOD SLATE PLANETARIUM ARALDITE	SLATE HERBIRITE AQUARIUM MARMITE

NAUSEA

ROCKS ARALDITE YERIDIUM AQUARIUM	SLATE YERIDIUM TEDIUM	BETHLIUM HERBIRITE PARASITE PALADIUM	
SOLARIUM VALIUM AQUARIUM ONION	AQUARIUM PALADIUM ONION TEDIUM		
		WOOD SOLARIUM YERIDIUM MARMITE	SOLARIUM ARALDITE HERBIRITE MORON
BONES SLATE VALIUM	YERIDIUM VALIUM PARASITE AQUARIUM	SLATE ARALDITE AQUARIUM TEDIUM	

OCARINA

PLANETARIUM HERBIRITE ONION	BETHLIUM YERIDIUM VALIUM ONION

EPOCH 6

PYJAMA

PLANETARIUM BETHLIUM ONION MARMITE	BETHLIUM AQUARIUM TEDIUM	BONES SLATE YERIDIUM	
ROCKS TEDIUM MORON ALIEN	ARALDITE PALADIUM TEDIUM MORON	BETHLIUM SOLARIUM ONION MARMITE	
BETHLIUM ARALDITE AQUARIUM PALADIUM	SLATE AQUARIUM TEDIUM MARMITE	PALADIUM ONION MORON MARMITE	
	MOONLITE PARASITE PALADIUM MARMITE	WOOD YERIDIUM PARASITE AQUARIUM	

QUOTA

	BONES VALIUM ONION MARMITE		
ROCKS YERIDIUM ONION MARMITE	WOOD HERBIRITE VALIUM PALADIUM	YERIDIUM PARASITE AQUARIUM MORON	YERIDIUM PARASITE TEDIUM MARMITE
	ROCKS YERIDIUM PALADIUM MORON		
	BONES YERIDIUM PARASITE TEDIUM		

RUMBABA

BONES BETHILIUM YERIDIUM ALIEN	BETHILIUM AQUARIUM TEDIUM MARMITE

	WOOD ARALDITE PALADIUM MORON
PLANETARIUM SOLARIUM TEDIUM MARMITE	YERIDIUM PALADIUM TEDIUM

you allow your opponent time to develop, you're finished.

10. For the newcomer, Epoch 6 is an introduction to the high power arms race that dominates the later levels. Most of the time the islands of Epoch 6 are won and lost with nuclear weapons and really they all play like a straight sprint to be first past the nuclear post. But if you work quickly, these islands can still be won by conventional means.

11. An essential part of playing split islands is in the initial choice of sectors. Try to manoeuvre yourself onto an island all on your own; it gives you valuable breathing space. Failing this, try to form enough to give him the push and kick him where it hurts.

12. A useful tip against a final enemy with one sector left and nuclear defence installed (when you also have only one sector left) is to try to gain another sector. Providing you can build a nuclear weapon you can nuke him, have your launching sector destroyed and still win.

13. Look before you leap. With nukes, always check to see whether the sector you are attacking has any nuclear defence. If you don't check you could be in for a big surprise.

14. Often higher designs are available to you if you are prepared to design the lower ones you don't really want. Remember, until you are onto the Victorian Era you do not have a laboratory and without one you can't design planes. The only way to increase your sector's overall technological standing is to design, design, design.

15. When you are under heavy attack and you have only a limited number of shields, you have to let some of your buildings be destroyed. Remember to pull all men out of a building before it disappears.

It's a good idea to leave yourself permanently looking at the shields menu to know when to evacuate each building. The tower is by far the most important building to keep going. Remember, without your tower, the whole sector is taken away.

IDEAL ELEMENTS FOR INVENTIONS

Wood, Rocks, Bones: Nuclear defence, shields

Slate, Moonlite, Planetarium: Machine gun, jet plane, shields

Bethlium, Solarium, Araldite: Biplane, nuclear weapon, shields

Herbirite, Yeridium: Shields

Valium, Parasite: Machine gun, shields

Aquarium, Paladium: Jet plane, bazooka, nuclear weapon, nuclear defence, shields

Onion, Tedium: Biplane, machine gun, jet plane, bazooka

Moron: Biplane, flying saucer, SDI laser, shields

Marmite: Nuclear weapon, nuclear defence, flying saucer, shields

Alien: Flying saucer, SDI laser, shields

EXTRA! EXTRA! DISCOVERY PACK RIPPED WIDE OPEN!

Just bought a Discovery Xtra pack? Wrestling with the four games contained therein? Well, help's at hand to get you that bit further along the way to success.

ESCAPE FROM THE PLANET OF THE ROBOT MONSTERS

Domark

When you reach the room containing the Reptilions, collect the bombs from the lockers. When you enter the room that contains the Reptilion, a door closes behind you. Walk past the Reptilion until you reach the other door. Push the joystick back, forth and forward, press <Shift> to drop bombs, and you can walk through to the transporter. Do this in every Reptilion room.



● **The easiest way to *Escape From the Planet of the Robot Monsters* would be to concentrate harder on the task in hand – get on with it properly and stop fiddling about throwing bombs everywhere. I mean, surely there's a bus service?**

SIM CITY

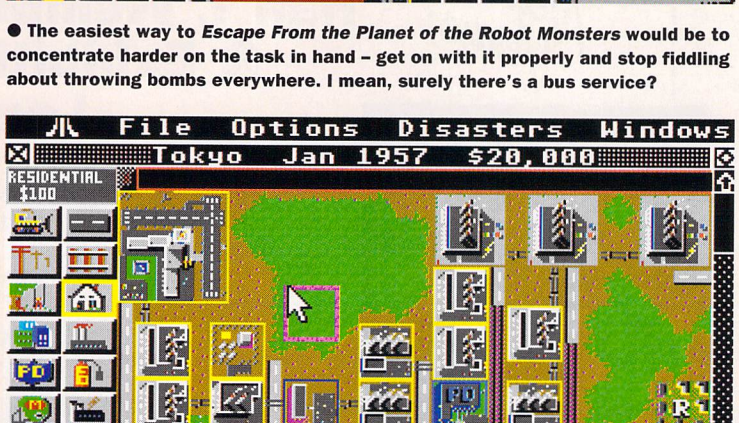
Infogrames

There are various methods to become a successful town planner. Here's one of them.

Put down a group of two or three residential areas along with two commercial and two or three industrial areas. Join them all up with power lines and roads. Don't bother with a railway system until later in the game.

Build a power station quite far away from the main group of buildings, because the citizens don't like the pollution it produces too close to their homes. A coal station is usually better because there's no risk of meltdown and it's cheaper. Build a police and fire station for fire cover and to keep the crime down. The worst crime areas are in the industrial areas.

The main secret of success is the tax rate. As soon as the game starts, put the rate right down to 0%. When October comes around, whack it straight up to 20%. People are attracted to your city to begin with because there are no taxes, giving you loads of money. In January, when the taxes have been collected, put the rate back down to 0%. Do this throughout the game because the citizens are always caught out by it. Keep a good balance between areas (commercial to industrial) and build plenty of roads between them. Don't spend too much each year, expand slowly but surely and you'll be okay.

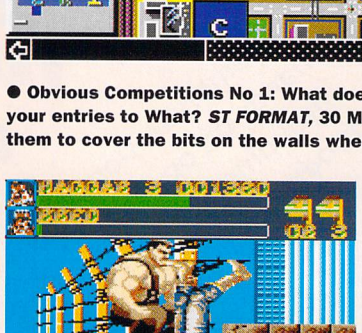


● **Obvious Competitions No 1: What does the Sim in *Sim City* stand for? Send your entries to What? *ST FORMAT*, 30 Monmouth St, Bath, Avon and we'll use them to cover the bits on the walls where all the paint's peeled off. Ta.**

FINAL FIGHT

US Gold

US Gold themselves have given us this. Pause the game and type SHERIFF FATMAN for infinite lives.

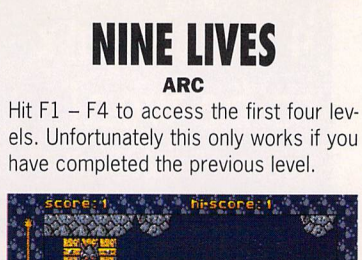


● **Step 5. With a swift up-and-down movement, the morsel of food is dislodged and the victim can once again breathe easier. The wounds to the head heal in next to no time and the irreparable brain damage is a small price to pay. Next week: cat-skinning for underprivileged children.**

NINE LIVES

ARC

Hit F1 – F4 to access the first four levels. Unfortunately this only works if you have completed the previous level.



● **...and the actress said to the bishop, "Yes, but not without the cream!" For the beginning of this joke, ring 0898 345765. Or was it 0898 544290?**

Announcing: THE 5th International 16 BIT COMPUTER SHOW

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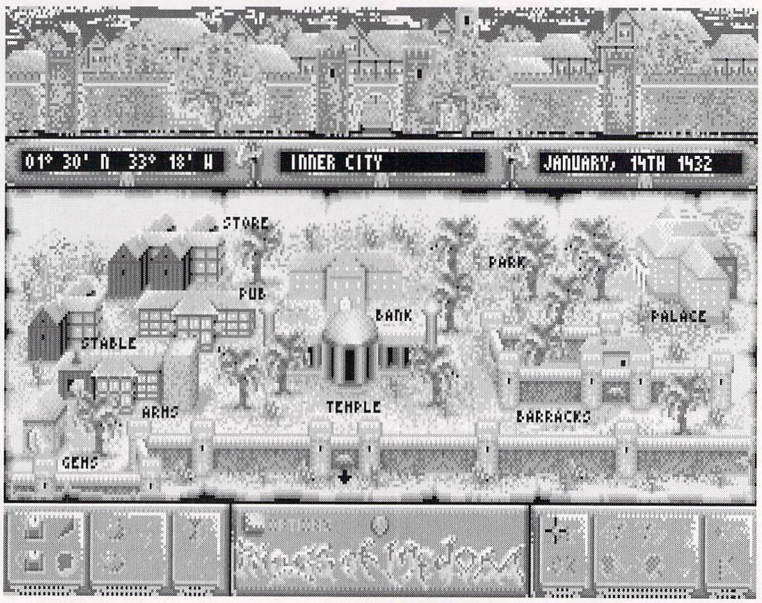
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RINGS OF MEDUSA

Starbyte

Also just rereleased. Try this for a cheat mode. When asked for your name, type in DEOXYRIBONUKLEINSAEURE. Then hit Help at any time for a cheat.



● Don't exactly know where *Rings of Medusa* is set but their inner cities are a bit clean and tidy, aren't they? And just look at all the facilities they've got: bank, temple, gems, even a barracks and a palace. Saturday nights must be interesting.

VERMINATOR

Rainbird

Buy a hammer from the shop and then sell it for 50 credits. Go up to the till and you'll have bought the falcons for 50 credits – sell them for a good profit.

FORMAT NEEDS *YOUR* TINTS AND HIPS

Yep! Slubs, perks, gids, aglet – *all* those silly words you type in to exist into perpetuity and higher scores – we want them all! If you've got a tip, a cheat, a short cut, an infinite lives poke, a password, a map – anything at all you've found that helps you get more from your ST game-playing – we want to hear about it! That way you can share your tips with well over 70,000 fellow ST enthusiasts, and possibly win *FORMAT*'s monthly prize of £50. It doesn't have to be a complete solution or anything – *whatever* you've got could be the answer to a fellow ST game-player's prayers!

TIPS

Name _____

Address _____

_____

_____ **Daytime phone** _____

Brief description of tip _____

_____

_____

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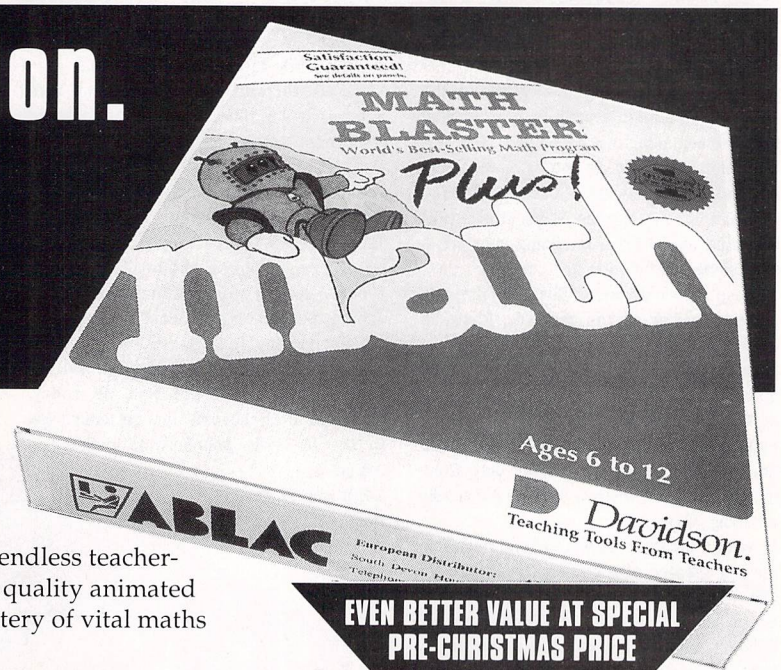
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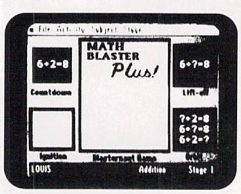
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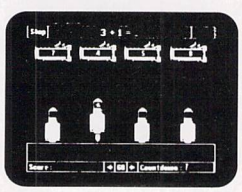


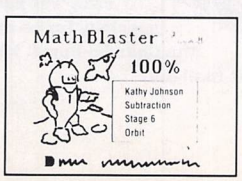
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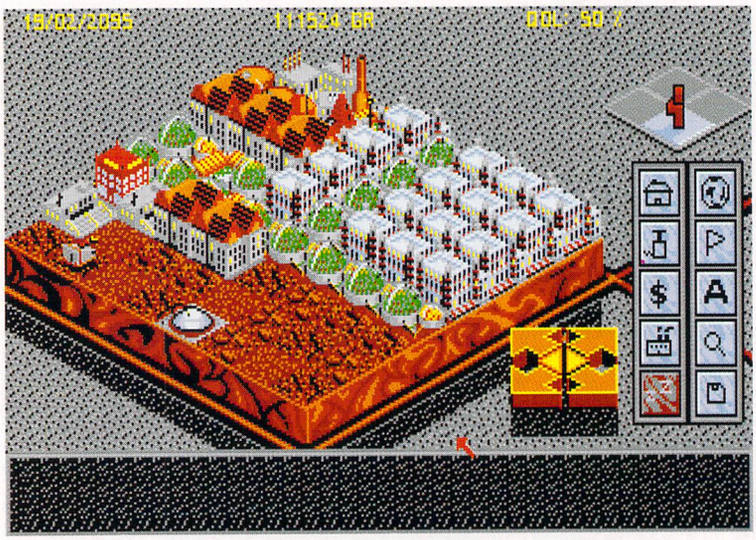
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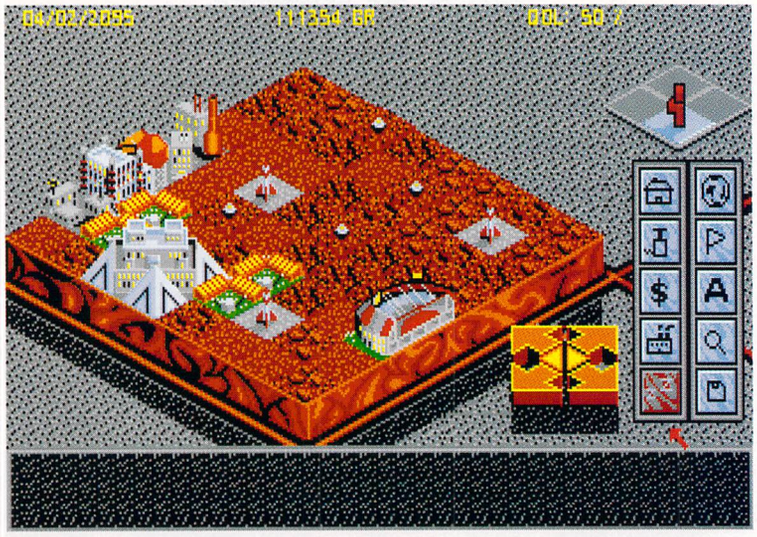
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● **Oh! To be in *Utopia*, now that half a sports centre, a block of flats, a bit of a life support, several missiles, a power generator, some solar panels and a small red "i" are there. Sounds rather like one of the Dodecanese islands.**

UTOPIA

GREMLIN

The Grems have come up with their very own hints for this magnificent god-game. Take it all away, Mr Gremlin...

1. If you only have a single disk drive, reduce the amount of disk swapping like this. Load the Map screen from the game disk first, then keep the Scenario disk in the drive. This means you can access the Map screen immediately and don't have to swap disks for a spy report. Access the advisors using the function keys rather than the icon – the information they give you is the same either way.

2. Some of the information available on the Advisor Information panels is not updated until the beginning of a new month. Get into the habit of looking at one or more of the advisors on the second of each month. The Psychiatrist (F1) and the Administrator (F2) are most useful for determining your priorities for the next month.

3. Keep a good spread of flux pods throughout your colony so you can build freely. In particular, build them around the edges of your colony so you can expand outwards quickly.

4. Once you are at war with the enemy, build one or more Command Centres. You are severely hampered if your only Command Centre is destroyed, because hardly anything works.

5. With a high population, several hospitals have a greater effect upon the Quality of Life rating than just one.

6. Invest in scientific research early by building laboratories and recruiting scientists, and make sure you maintain adequate research grants (via the Finance screen). Obtaining inventions takes time, so don't waste it.

7. If you have a power shortage and are under attack, build missile launchers instead of laser turrets, because the turrets need a lot of power to operate.

8. Use the markers to indicate the position of ore deposits on the Map screen, then you can easily see where to build a mine back in the 3D display.

9. If possible, avoid building power stations since they severely affect the Quality of Life rating by producing hazardous waste products. Instead, build lots and lots of solar panels. You have to build lots of flux pods too, to store power during solar eclipses. Another advantage is that when a solar panel is destroyed by the enemy, you only lose 2MW of power generation, rather than 50MW if your power station is hit.

10. Build Tank Construction Yards around the perimeter of your colony, so that tanks are ready to engage the enemy whatever direction they choose to attack from.

11. When the space around the Tank Yard is full of tanks, move some of the tanks to unprotected parts of your colony to act as sentries. Ideally, you should have small groups of tanks everywhere so that there is no weak point for the enemy to use.

12. If you're short of money, build lots of workshops and stores, and regularly sell the Tech Goods you produce. The same can be done with chemical plants and fuel tanks.

13. Put Income Tax straight up to 20% at the start of the game and lower it a few percent at a time while you build up money. Once you are rich, remember to reduce tax to 0% to make your people really happy!

14. If you are having trouble moving tanks to a marker because an obstacle is obstructing them, position another marker well clear of the obstruction but in another direction to which the tank is heading, and send the tanks to this marker first. Then send the tanks to the original marker.

15. When sending tanks and spaceships to attack the enemy city, remember that large groups have a greater effect than sending just one or two tanks at a time. Ideally, amass tanks and ships on the edge of the map and then send them all off together. Another good idea is to build one or more Tank Yards near the edge of the map, so that you can send the tanks immediately to the enemy city without faffing about extricating them from the centre of the colony.

16. Maintain "roads" of at least two spaces wide throughout your colony so that tanks can move about without restriction.

17. Once you have the land mine invention, drop mines right in front of your enemy vehicles as you approach.

18. To get an extremely large radar coverage, construct flux pods in all directions, building each pod about ten spaces out from the last so that you end up with a grid of flux pods ten squares apart. Then build a radar by every flux pod. Your radar should now cover almost the entire map.

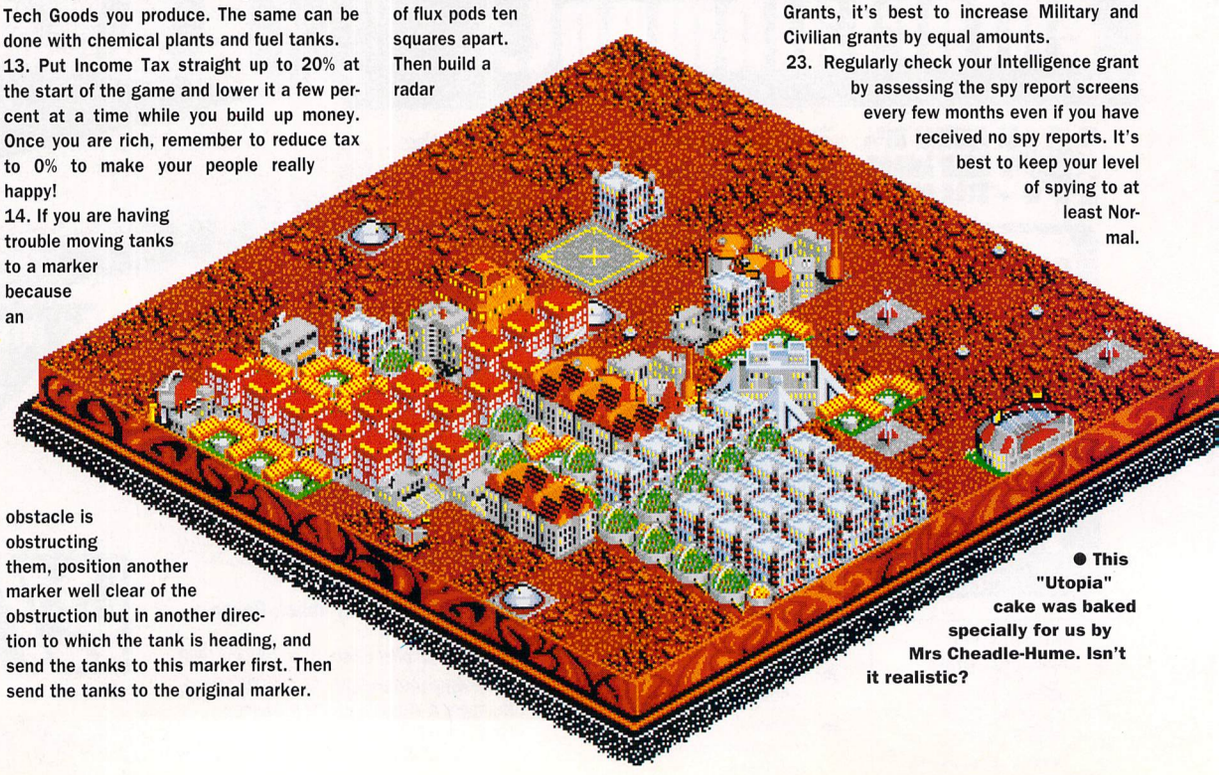
19. Learn the directions the enemy attacks from and put extra defences in those directions. Where the terrain permits, seal off "valleys" with a row of laser turrets or land mines so that the enemy vehicles can't pass.

20. At the start of the game, build a hospital and increase the Birth Rate to High so that your population increases quickly. This gives you more available colonists for construction and to work in industry. Once you are happy with your population size, reduce the Birth Rate back to Medium or else you will be forever building new living quarters and hydroponics centres.

21. Use the quick way of placing markers as described on page 20 of the manual, because, er, it's quicker.

22. When putting money into Research Grants, it's best to increase Military and Civilian grants by equal amounts.

23. Regularly check your Intelligence grant by assessing the spy report screens every few months even if you have received no spy reports. It's best to keep your level of spying to at least Normal.



● **This "Utopia" cake was baked specially for us by Mrs Cheadle-Hume. Isn't it realistic?**

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There are 205,462,594 Public Domain programs. Oh no, hang on, that's someone's telephone number. It's written down here somewhere. Ah yes, 33. No, it must be more than that. Well, look, it's an awful lot, okay? Chris Lloyd whimpers from underneath a pile of cheap games, demos, utilities – and more – disks...

GAMES

OZONE

Goodmans PDL – Disk
GD 1425

A real little cracker of a game, *Ozone* is 13 levels of platform puzzlery. Your charming blue blob character bounds about collecting icons and trying to stay out of trouble. There is no fixed way through each level – you can race for the exit or hang around figuring out how to reach those point-earning gems. There are various power-ups to collect, including rocket packs, hang-gliders and friendly rock-eating monsters.

Each level has tricks up its sleeve – switches release icons and give access to hidden areas – all sorts. The graphics are detailed, colourful and horribly cute. There are lovely touches including tiny orange blobs with lives all of their own. Joystick control is accurate and, although the basic concept is simple, there's bags of gameplay. It starts off fairly easily and builds up to a complex maze of doors and puzzles. *Ozone* is the result of a year's development by Nick Harper and was very nearly a commercial release. Two software houses pulled out after finding out it was written in *STOS*. Nick has sensibly dumped the interrupt driven sprites and pasted sprites directly onto a hidden screen before displaying it. The result is smooth, flicker-free sprites and scrolling that zips along at about 15 frames a second. After the companies bottled out, Nick released it as Shareware, so send this man some dosh after a few games, 'cos it's a corker.

***STF* Rating – 93%**



● Happy birthday, blue blob, happy birthday to you! The hidden room on *Ozone's* second level is absolutely jam-packed with gems – but you need to experiment with the switches if you're going to get there.



● Enter a level code on *Ozone's* title screen, press <Fire> and you're zapped there without any further ado. Typing TOE sends you to a level packed with dozens of doors and nasties. Confusing or what?



● Boiiiing! Our hero leaps for those icons. Watch out for dark grey blocks – they crumble away after you walk over them. But there's a lever which replaces this set. The books give information, like all-important level codes.



● *Bolo* has 50 levels, all sorts of special titles and lovely graphics. The ones on the first row here release these unfriendly things that home in on you, so make sure that you go for them last.

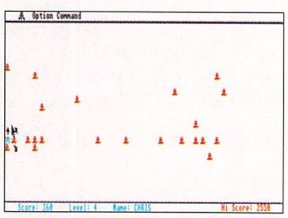
BOLO

Softville PD – Disk MEG20

Bolo is a beautifully presented version of *Breakout* – the bat and ball game from the mists of time. Your mouse moves this little bat while a ball bounces round the screen, the object being to bounce it against these little tile things until there are none left. Bang goes three hours! Addictive gear, this ball bouncing.

Unlike most versions, you can move your bat anywhere on the screen. *Bolo* works in high and medium resolution and you need 1MByte of memory.

***STF* Rating – 86%**



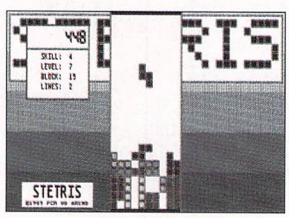
● *Daleks* runs in medium or high resolution and features this spectacular exhibition of graphics. Er, the sound's quite interesting, too. Still, at the end of the day, it's gameplay that counts, isn't it?

DALEKS

Softville PD – Disk GAME6

It's been around for ages and has crude uninspiring graphics, but *Daleks* has that dammit-I-didn't-deserve-to-die-gimme-just-one-more-go effect. You guide a tiny sprite around the screen. Every time you move, all the little daleks move one step closer. If two collide with each other, they're both zapped and leave behind a little pile of junk that zaps any dalek colliding with it. You can teleport at any time, but it's risky if there are too many tin-can monsters about. It's all horribly simple and addictive.

***STF* Rating – 80%**



● It all starts at a mellow pace and seems easy – little blocks float down the screen and you fit them together. A few minutes later, *Stetris* has you jumping around shouting, "I didn't want it to go *there!*"

STETRIS

South West Software Library – Disk 837

A blatant rip-off of the commercial game, *Stetris* is all about tessellation. Little shaped blocks fall down the screen which you can move and rotate. The idea is to build up solid lines at the bottom of the screen – once a line is complete, it disappears. You can set the size of the playing area, the speed the blocks start falling and the types of shapes. It's reminiscent of some intelligence test on spatial ability. Infuriation can set in as one misplaced block screws up everything and you frantically try and fill in the awkward spaces. Simple concept but jolly engrossing.

***STF* Rating – 77%**



● You need careful joystick control to get very far with *Fuzzball* – it's easy to go suicidally leaping off the edge. If you're lucky enough to land on one of the little discs, you're transported back to the top.

FUZZBALL

The South West Software Library – Disk 1182

This orange blob of an art critic is so incensed that he's taken to jumping all over cubist art, changing its colour.

Fuzzball is a Q-Bert clone – your task is to land on every cube changing its colour, avoiding the balls that fall from the top and the deadly purple springy snake-thing. It's a pretty straightforward arcade-type bounce-around. One to keep the children quiet with.

***STF* Rating – 68%**



● I dunno, out for a quiet ride in me rocket-ship when along comes this gang of eyes and hassles me for fuel. *Onyx* has some big, colourful sprites as well as smooth scrolling. Pity the gameplay isn't up to much.

ONYX

Budgie Disk 39

Makes a change, doesn't it? Your lone spaceship pitted against waves of alien cannon fodder. The last meanie of each wave drops a canister of fuel, which you're desperately short of. The games end when you're out of fuel or have taken too many head-on impacts.

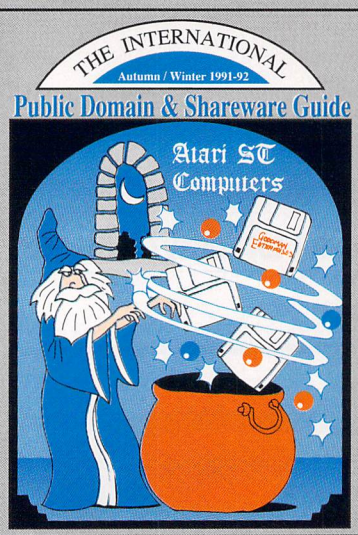
The horizontal scrolling is very smooth, with a nice parallax effect on the planet surface. It all gets repetitive very quickly. Die and it's back to the beginning to fight your way through the same waves of aliens again. Not bad for a quick blast, though.

***STF* Rating – 66%**

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ST Applications

Over two years ago New Computer Express described our newsletter: "To call it a newsletter shows a terrific amount of modesty on their part...It really is packed with information, with more concentration on the serious side of the ST." ST Applications is a complete re-design of The ST Club Newsletter that has grown to 3,500 subscribers since we started it four years ago. Each monthly issue runs to at least 60 A-4 pages. If you would like to subscribe or receive an evaluation copy please complete the form below.

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The essential font utility for the ST. Edit or create GEM fonts, Signum fonts, screen fonts and downloadable printer fonts. Incorporates a suite of drawing tools, plus block manipulation tools, and it will import Calamus, Degas and Macintosh fonts. Price £19.95

UIS III

Powerful replacement for the Atari Item Selector. Universal Item Selector III incorporates a host of utility functions: format disks, copy, move and rename files and folders, create folders, find files, set file paths etc. "You'll wonder how you ever lived without it", ST Format, December 1990. Price £19.95.

The Catalogue

Our collection of PD and Shareware disks runs to over 2,000 disks and we guarantee same day dispatch on all orders. Our Free Catalogue - (46 pages A4) details these disks and all of our products and services: Books, Budgie disks and laser printing. We also publish: Astronomy Lab (£19.95), Key Master (£6.95), Oxford Chess (£9.95), Molgraph (£12.95), Guides to Timeworks DTP (£9.95), and 1st Word (£6.95). Details of these are in our current catalogue. Write or telephone for your copy today.

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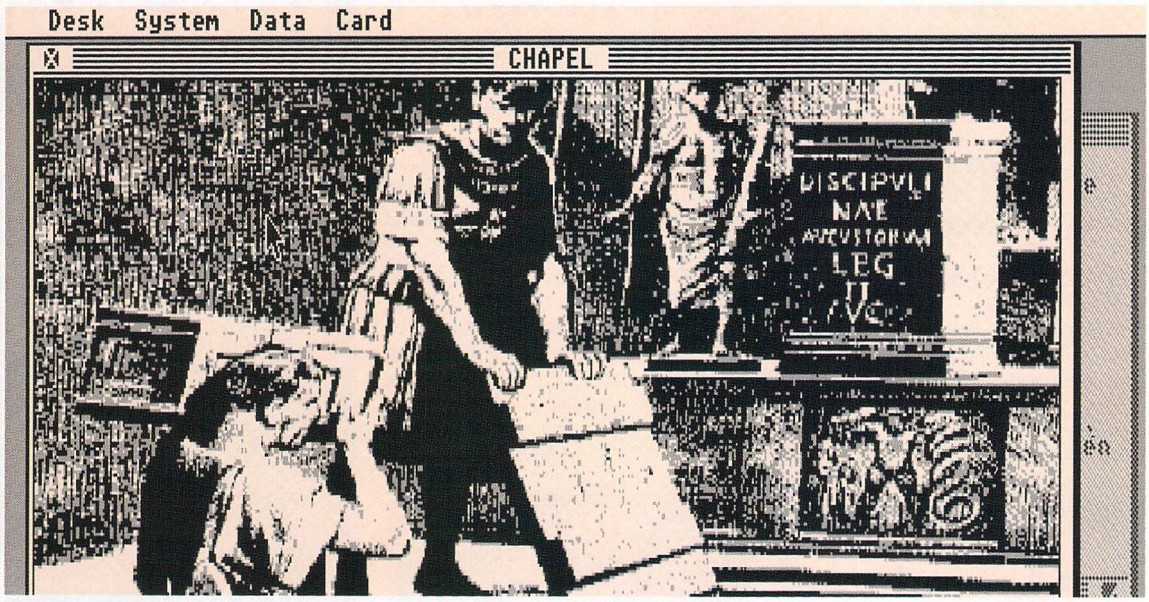
→ EDUCATION

A ROMAN MYSTERY

Goodman PDL – Disks GD 1334, 1335 and 1336

A collection of programs written by a teacher and designed to be used as source material for a project on Roman Britain. The first disk is a collection of graphics for DTP. The second contains a magazine program with lots of background information and two *3D Construction Kit* programs that enable you to walk through a section of Hadrian's Wall and a Roman fort. The last disk is a large mystery game written using the *TCOS* card-based database. The object is to explore a Roman fort, talking to locals and solving a murder, which actually took place in the 4th Century. A lot of work has gone into preparing this and it shows. The background information is excellent and it can be used as a basis for a large project or just a quick peek at life in Roman Britain. Highly recommended.

***STF* Rating – 79%**



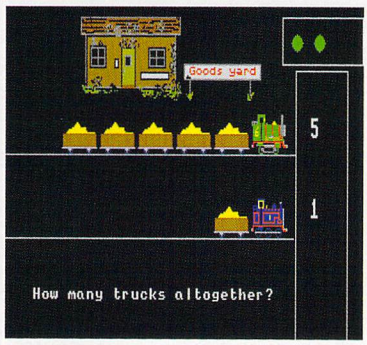
● ***A Roman Mystery* is a three disk set of source material on Roman Britain, including background information and a murder investigation, presented using a simple card database with plenty of scanned images. Anyone know the Latin for butler?**

READING AND COUNTING

Floppyshop ST – Disk EDU 43C

Four simple educational games for the four to seven age group, each with basic graphical reading and counting tests. *Read* is a multiple choice reading test where you match a picture with a word. *Counting* has you, er, counting – as does *Trains*. They're quite well presented, although they do have a limited life. Once you've led the child through each one a couple of times, that's it. Still, it's pretty good value if you need basic teaching programs.

***STF* Rating – 67%**



● **Don't tell me, hang on a minute, er, seven – no, six! *Trains* is a simple counting game. Do you know someone who can't count? Editorial staff not included.**

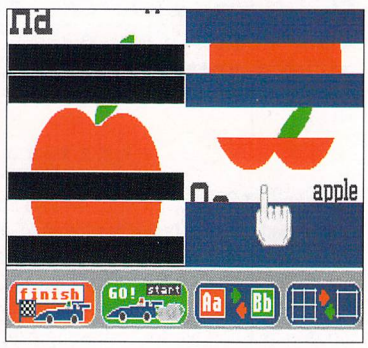
ALPHABET MIX

Caledonia PDL – Disk SES 5

A sort of jigsaw puzzle game based on the alphabet. There are 26 pictures representing the letters of the alphabet. You get a look at the complete picture, which is then jumbled up and has to be pieced together again.

It's all mouse-driven and easy to use. You can select how many bits the screen is broken into. Have fun and pick up the alphabet at the same time. You never know, it might keep the kids contented for a while, too.

***STF* Rating – 63%**



● **A is for banana! Er, grape? No? Pomegranate? Well, look it's some sort of fruit, isn't it? *Alphabet Mix* combines a simple jigsaw game with a bit of the three Rs.**

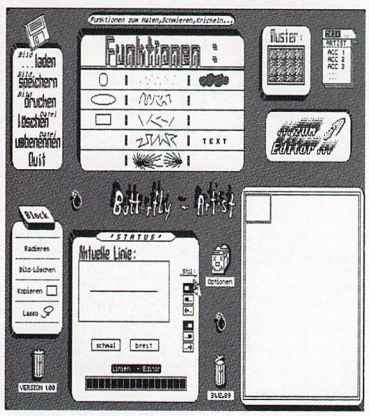
ART AND MUSIC

BUTTERFLY ARTIST

Floppyshop ST – Disk ART 63M

Originally German, *Butterfly Artist* is a fully featured high resolution drawing program. It's now pretty much fully translated, only some of the menu options are still in German. The program has a comprehensive range of features – it can load and save in all sorts of formats including *Degas*, *IMG*, *STAD* and *Doodle*. Low or medium resolution *Degas* and *Neochrome* pictures are converted into shaded monochrome screens. The program supports GEM fonts and has a comprehensive range of block functions. You need to spend a while digesting the manual on the disk to get the most from it. To get much better than this means spending a lot of squids on a flash commercial package. Excellent value.

***STF* Rating – 90%**



● ***Butterfly Artist's* main screen. The user interface is intuitive and well-presented. The box at the bottom right is your total drawing area but the only limit on picture size is your machine's memory, making this one of the few art programs that can edit really big bit-mapped IMG files.**

JET PAINT

Jennix PD – Disk 254

Don't know quite where the "jet" bit comes in. *Jet Paint* is an easy-to-use paint program. All the usual functions are contained on a strip of icons, along with a zoom window, in the bottom half of the screen. The top half shows half of your picture screen, which can be scrolled up and down. Click the right hand button and you're shown the full screen effect. It has the look and feel of Atari's *Neochrome*. Unlike *Neochrome* it works in all resolutions and you can get at the GEM menu bar, so you can run Desk Accessories such as snapshot programs.

***STF* Rating – 70%**



● **Uncomplicated and straightforward, *Jet Paint* is an approachable painless introduction to art packages.**



● **This strip of icons enables you to cut and paste, make boxes and much more.**

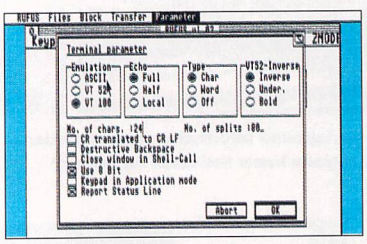
UTILITIES

RUFUS

Floppyshop ST – Disk COM 29

Terminal emulation. No, that's not lying down and being very still, it's some sort of technical stuff to do with the RS232 port. *Rufus* is a comprehensive comms program with VT52, VT100 and ANSI emulation. It can handle X-, Y-, and Z-modem and ASCII as well as its own Stream protocol for direct ST to ST communication. You can run it as a Desk Accessory for background data transfer. It has a nice GEM interface and is fully configurable. If you're up in the late hours wibbling on about handshakes, parity and stop bits, check this one out.

***STF* Rating – 78%**



● Ooer, it's technical. *Rufus* is a comprehensive comms package with all sorts of protocols and other techie bits.

SMALL VIEW

Riverdene – Disk UTL 945

This little number comes in handy if you have loads of disks full of pictures and can't remember exactly what they all look like. It creates small versions of each picture and displays them as a graphical database. You can scroll through your collection looking for that elusive picture you know you've got somewhere.

Clicking on each of the little pictures brings up its palette and clicking on View displays it in its full glory. It can handle both *Neochrome* and *Degas Elite* PI1 formats. Amnesiac artists queue here.

***STF* Rating – 71%**



●*Small View* creates a graphical database of tiny versions of your prize collection of pictures. You can add a short text description along with each.

TEXT TRANSLATOR

ST Club – Disk EDU 34

There's a lot of sexy looking German software in the Public Domain, but it's usually accompanied by a hefty German text file. *Text Translator* does a fairly crude word for word translation for you. The program doesn't take any account of grammar or context and gives all the meanings for each word, so the results take a little figuring out. It has a 12,000 word dictionary, which can be expanded. We ran a 1,700 word instruction file for a drawing program through it and it managed to translate 1,300 words. A typical result is: "any/some function the across/by penetration the keyboard open/become/grow." I think it's trying to tell us there are keyboard shortcuts available. Could possibly come in handy, especially if you update the dictionary whenever it misses a word.

***STF* Rating – 66%**

SMELLY SOCKETS

In issue 27 we ran a little word search competition. We were inundated with 50 correct answers. The first out of the bag was **Thomas Bowes** of **Foston, North Humberside** and a copy of *Thunderhawk* will be winging its way to him very soon.

TOP TEN SELLERS

What's in, what's out, what's gone out and come back in again and what would have come in if anyone had asked. Jennix PD have sent us their top ten best-selling Public Domain programs.) And the winner is...

1. LLAMATRON –JPD 239 – Fast, furious and wacky. It's the best PD game ever written, maybe. Well, it sells a lot anyway.

2. 1ST WORD –JPD 042 – Easy to use GEM based word processor. If you only need to knock out the occasional document, this might be all you ever need.

3. POV COMPACT DISKS – Loads of demos compacted together – triff value if you're into the funny wibbly world of demos.

4. EZ-ART – JPD 156 – Now *Neochrome* is no longer PD, this could become the most popular art program. Updated to v1.5.

5. ROBOTZ – JPD 361 Lovely shoot-them-and-run-away-quickly style arcade game.

6. COLOURSPACE – JPD 210 – Original and fascinating light synthesizer, man.

7. OPUS SPREADSHEET – JPD 197 – Oh my gosh! A deadly serious productivity program, packed with features for doing serious productivity-type things with numbers.

8. NOISETRACKER – JPD 161 – The most popular of the many tracker music programs available. Enables you to compose your own four voice digital music and drive the neighbours crazy.

9. DISK COPIER COLLECTION – JPD 240 – Loads of disk copying proggies, including that old favourite *FCOPY 3.*

10. TRACKER MODULES – Stacks of these disks about, crammed with music for the various tracker players.

The *FORMAT* PD directory

● Where to go for Public Domain software – demos, games and utilities for around £3 a disk (or even less)! If you write to any of these PD libraries for a catalogue, remember to enclose an SAE. ● Budgie games are available from all PD libraries indicated by a (B). Simply mention the disk number (above the review) when you order the disk.

SOUTH OF ENGLAND

Arrow PD, 6 Kents Orchard, Perry Street, South chard, Somerset TA20 2QB

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Awesomedemos, 3 Mason Road, Seaford, East Sussex BN25 3EE

B-Soft, 2 Oliver Drive, Calcot, Reading, Berks. RG3 5XN. ☎ 0734 419981

C. Hacks PDL, 19 Latimer Drive, Laindon, Essex SS15 4RD ☎ 0268 416888

Elmsoft, PO Box 17, Loughton, Essex IG10 2EE

EVPD, 15 Cleeve Road, Gotherington, Cheltenham, Glos. GL52 4EW

Freaks PDL, 29 Leap Valley Crescent, Downend, Bristol BS16 6TQ ☎ 0272 570122 **(B)**

Gemini Shareware, 10 Warwick Avenue, Slough, Berks. SL2 1DX ☎ 0753 28183

Jennix PD, 66 Abbey Road, Strood, Rochester, Kent ME2 3QB ☎ 0634 723659

MT Software, Greensward House, The Broadway, Totland, Isle of Wight PO39 0BX ☎ 0983 756056 **(B)**

Paradise Computers, 9 Westfield Crescent, Brighton BN1 8JB **(B)**

PD Essentials, 22 Fern Avenue, Mitcham, Surrey CR4 1LS

PDQ, PO Box 38, Eastleigh, Hants SO5 5WR

Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey CR5 1EF ☎ 0737 554536

Public Dominator PD Atari, PO Box 801, Bishops Stortford, Herts. CM23 3TZ. ☎ 0279 757692 **(B)**

Public Sector PDL, 50 Ripon Road, Stevenage, Herts. SG1 4NA ☎ 0438 364722 / 361324

Riverdene PDL, 30a School Road, Tilehurst, Reading, Berks RG3 5AN ☎ 0734 452416 **(B)**

St John's School Library PDL, 54 Beaconsfield Road, Sittingbourne, Kent ME10 3BB.

Senlac, 14 Oaklea Close, Old Roar Road, St Leonards On Sea, E.Sussex TN37 7HB ☎ 0424 753070

Seven Disk, Digswell Water Lodge, Digswell Lane, Welwyn Garden City, Herts AL7 1SN ☎ 0438 840456

Softville PD, Unit 5, Stratfield Park, Elettra Avenue, Waterlooville, Hants PO7 7XN. ☎ 0705 266509 **(B)**

Solent Software, 53 Rufus Gardens, Totton, Hants. SO4 3TA ☎ 0703 868882

South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD **(B)**

Surrey PD Club, 25 Windmill Way, Reigate, Surrey

Tower Top PDL, The Coragen Corporation, 4 Cardigan Close, Bletchley, Milton Keynes MK3 7EJ

West London PD, 8 Berkeley Road, Hillingdon, Mdx. UB10 9DU. ☎ 0895 53521

Wizard PD, 178 Waverley Road, Reading, Berks, RG3 2PZ. ☎ 0734 574685 **(B)**

NORTH OF ENGLAND

Alpha Computing, 32 Meadow Drive, Halifax, W Yorks HX3 5JZ

Akore Shareware, 7 Fishergate Point, Lower Parliament Street, Nottingham NG1 1GD ☎ 0800 252221

D W Stables, Unit 1, Johnson's Shopping Centre, 29-31 Bond Street, Blackpool FY4 1BQ ☎ 0253 404550

EM PDL, 54 Watnall Road, Hucknall, Nottingham NG15 7LE. ☎ 0602 630071

Goodman PDL, 16 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent, Staffs ST3 1SW. ☎ 0782 335650 **(B)**

High Tec Sequencing Services PDL, 20 South Lane, Shelf, Halifax, W. Yorks. HX3 7PN ☎ 0274 606205

LAPD, 80 Lee Lane, Langley, Heanor, Derbys. DE7 7HN ☎ 0773 761944 **(B)**

Metropolis PD, 38 Howick Park Drive, Penwortham, Preston PR1 0LU ☎ 0772 748422

Nightshift PD, 8 Bertelin Road, Beaconside, Stafford ST16 3JJ ☎ 0785 49332

Page 6 Publishing, PO Box 54, Stafford ST16 1DR ☎ 0785 213928 **(B)**

PD.ST, 95 Elton Road, Sandbach, Cheshire CW11 9NF

ST Adventurers PD Library, 32 Merrivale Road, Rising Brook, Stafford, Staffs. ST17 9EB **(B)**

ST Club, 9 Sutton Place, 49 Stoney St, Nottingham NG1 1LX. ☎ 0602 410241 **(B)**

TRuST PD, 18 The Park, Southowram, Halifax, HX3 9QY ☎ 0422 341606 **(B)**

SCOTLAND

Caledonia PDL, 250 Oldtown Road, Hilton, Inverness, IV2 4PT ☎ 0463 225736 **(B)**

The Circular PD Library, 14 Morrison Drive, Lennoxtown, Glasgow G65 7BA

Floppyshop ST, 45 Provost Graham Avenue, Hazelhead, Aberdeen AB1 8HB ☎ 0224 312756 **(B)**

Office Choice, Suite 14, Avon House, Town Centre, Cumbernauld G67 1EJ **(B)**

WoolleySoft, Humblesknowe Cottage, Ramolye, Dunblane, Perthshire, Scotland FK15 0BA

WALES

Ian Blair Enterprises, 78 Carmarthen Road, Swansea SA1 1HS ☎ 0792 649060

Star PD, 1 Solva Road, Clase, Swansea SA6 7NX

OVERSEAS

Algemene ComputerClub Nederland (ACN), Postbus 5011, 2000 CA Haarlem ☎ Holland 023 326858

Atari ST User Group Norway, c/o SA Jensen, N-3630 Rodenberg, Norway

Public Domain Corporation, 4320 – 196th SW, Suite B-140, Lynnwood, WA 98036-6721, USA ☎ 0101 206 745 5980 (catalogue £1)

ST-PLUG, 1670 Heron Road, Box 22026, Ottawa, Ontario, Canada K1V 0C2 ☎ BBS 0101 613 731 2779. **(B)**

Wacko Software, Willem Pijperstraat 63, 1077XL Amsterdam, The Netherlands

BUYER BEWARE: Inclusion in this directory does not imply that *ST FORMAT* endorses or recommends any individual PD Library in any way.

● If you run a PD library not listed here and wish to be included, or if you are already listed and want to amend any details, send full details and a copy of your latest catalogue to: PD Directory, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW

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C135	HAGTERM	Comprehensive communications program
E140	BODYSHOP	Teaches children the human body
E 80	CHEMIST	GCSE chemistry tutor
E200	FRANGLAIS	Teaches French by mixing it with English
E 5	KIDPUB21	Kidpublisher V2.1 Desktop publisher for kids
E120	SHIPWRECK	Rescue someone from a shipwreck by simple maths.
E 29	TYPIST	Touch typing tutor
E 336	BATTLESHIP	Play battleships against the computer
G 7	BINGO	Prints the cards, calls numbers, check cards
G142	BRICK	Escape from a brickworks by jumping on spiders
G 58	CHESS	Plays a good game, many features, mouse driven
G557	CHUNKS	Like Tetris but the blocks come from all directions
G 36	CRIBBAGE	Sharpen up your game
G373	GAMMON	Backgammon against the ST
G885	HAUNTED	All action Arcade Adventure
G839	LOTTERY	An adult adventure set in red light San Francisco
G217	TENNIS	Really nice graphics in this tennis sim
G162	WDEXTRACT	Extracts all the words contained within a word
M 65	ALCHEMY	Superb shareware sequencer from France
P 52	GENEALOG	Trace your family, 2000 relatives, 19 generations
P180	MONEY	Lots of ways to make money from your ST
U320	CIRCUITS	Design electronic circuits for use with GCSE/A lvl
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U850	SAGROTAN	Incredibly versatile virus killer
W 60	CALAMANL	A manual for Calamus
W 13	NEWWORD	Word processor accessory, includes alarm clock.

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The South West Software Library



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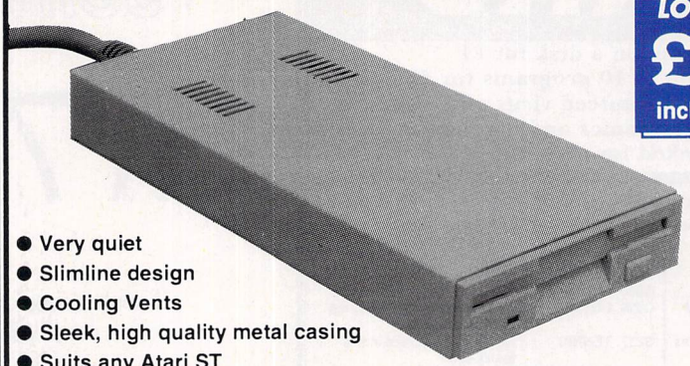
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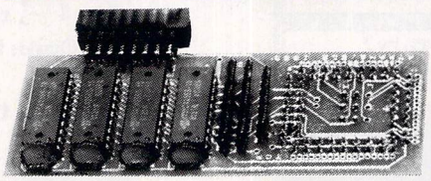
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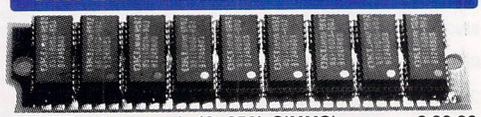
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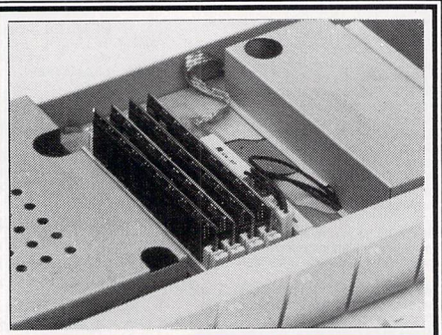
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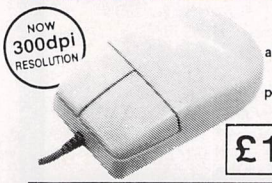
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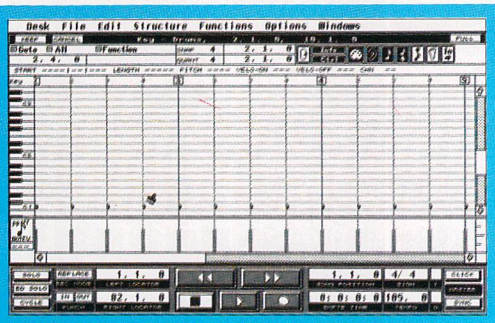
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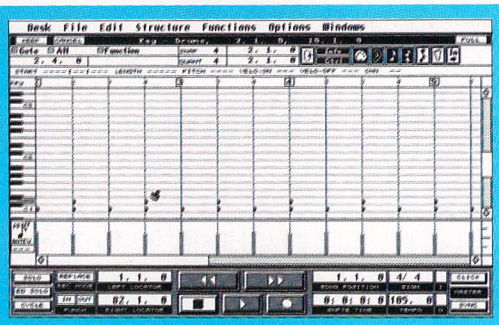
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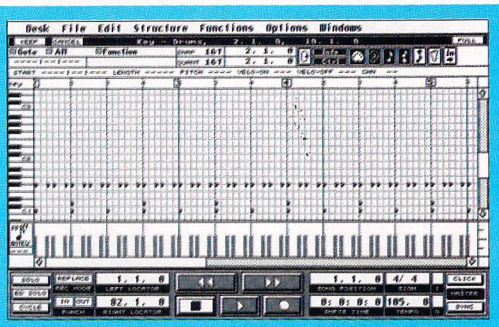
OUR FREE CATALOGUE CONTAINS FULL DETAILS OF THE ABOVE DISKS PLUS MANY, MANY MORE



● **Hands On pack a lot into their music files. To explore the file included on the Cover Disk, you can load up *Cubase*, start with an empty screen and "brush" on the bass drum to the Key Edit screen.**



● **To reproduce what's in the Cover Disk file, you could now add the rimshot on the off-beat. Keeping the lengths of the notes as short as possible helps you to prevent "note-stealing."**



● **Next comes the closed high hat with a triplet feel. Typical dance stuff, this. Hands On play everything in by keyboard, but you don't have to if you have a good editing screen on your sequencer.**



Music on hand

If you have no musical knowledge and can't play an instrument but want to play your favourite songs from your ST, Dave Clackett and Hands On have the answer to your dreams: pre-recorded MIDI files. Vic Lennard reports – and the Cover Disk has a full song file you can try on your MIDI equipment

It's a bit like the great British breakfast – love it or hate it, you can't ignore it. Yes, MIDI is rapidly becoming part and parcel of everyday life. Once you have bought your ST, music is only a MIDI keyboard and a sound module away, thanks to the MIDI sockets on the left hand side of your ST.

But what if you know nothing about music? How do you get the chance to play back your favourite songs from your ST? Well, there are several companies who can provide you with those songs on disk in a format which you can load into your sequencer. Hands On MIDI Software is one such company.

THE PAST

Hands On was set up by Dave Clackett some three years ago after a very musical career. "I joined the Royal Marine band at 15 playing flute and tenor sax and, two and a half years later, went to the band at the Royal Naval College in Dartmouth. I followed that with the Royal Yacht band at Portsmouth and then played on the QE2 and did the usual gigs and tours."

During those years as a professional musician, Dave taught himself how to notate music to the point where he joined a company called London Orchestrations, who used to score the individual parts for the current hits and sell them to bands for use at concerts. You need an exceptional ear to do this, and, three years later, this talent led Dave to consider doing the same kind of thing on his own, but onto disk via a sequencer instead of on paper. "There are a lot of bands who don't read music," he says. "So I wanted to come up with something they could use."

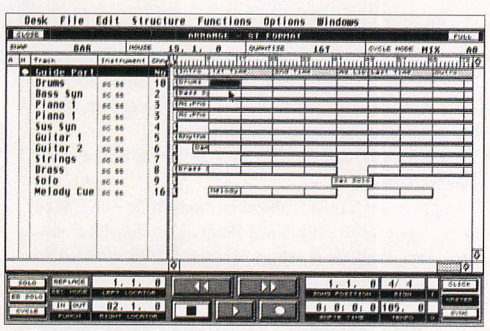
In 1987, Dave met with Paul Young, a classically trained musician who had spent several years working in the bands at Butlin's holiday camp. "Dave said to me 'I'm getting into computer music, come over and see what it can do.' I did, and he sold it to me, hook, line and sinker." After borrowing some money to buy his ST, Paul joined with Dave, and Hands On was really off the ground. Now Paul is Dave's right hand man and an indispensable part of the operation.



● **After playing with the Royal Marine band and then scoring music for musicians who can't read music, Dave Clackett founded Hands On MIDI Software.**

After Hands On had carried out a fair amount of research work into the market, packages started to appear in 1989 via the ST running Steinberg *Pro-24* sequencer and Roland's D-110 sound module. "The biggest market by far was for ST users and *Pro-24* was then the most popular sequencer. We could then generate MIDI Files for C-Lab's *Creator* and others."

After providing songs for Roland's Desktop Music System (see "Hands On Roland" on page 89), Hands On have slowly branched out to other hardware sequencers such as the Roland "MC" series and the Alesis Data Disk. The latest sound module to be added is Roland's new Sound Canvas.

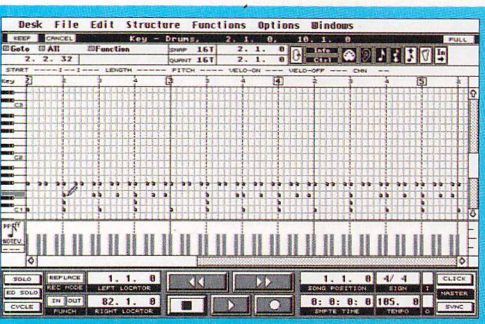


● **This is the entire song shown on the *Cubase* Arrangement screen. The drum track we've been working with is the one that is highlighted.**

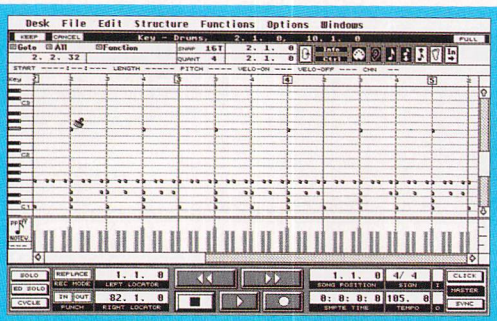
THE PRESENT

Hands On's current library exceeds 250 titles, including songs as varied as "Jingle Bells" and the recent chart hit "I'm Too Sexy," from Holst's "Jupiter" to Madonna's "Vogue." All programmed on Steinberg's *Pro-24?* Dave comments, "Yes. Five years ago, *Pro-24* was the standard and we learned it so well that we could even re-write the manual now. Even though *Cubase* is better, *Pro-24* does what we want it to do and it would take too long to learn another package. The MIDI File aspect is a bit primitive, so we load the *Pro-24* song into *Cubase* and save it out as a MIDI File from there."

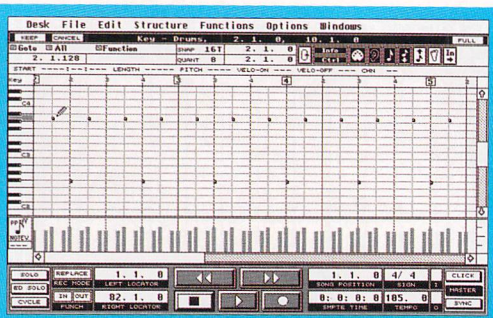
One of the problems with writing MIDI sequences for different sound modules is that the drum notes are usually in the wrong place – the notes intended for bass and snare drums could end up with the sounds of cowbells and glass bottles! Also, the eight characters allowed for track names on most sequencers don't enable you to accurately describe the sound that should be used. Hands On get around this by including a substantial listing of the sounds, including accurate, graphic descriptions and the bars where each instrument plays, the drum notes, the lyrics and any necessary additional information. Highly impressive, and absolutely necessary when you consider that many pro artists use Hands On



● Since we are talking of dance rhythms, here are the handclaps... Hands On ensure that these come out sounding like handclaps by including on disk all the information for your particular sound module.



● Next comes the tambourine. Hands On themselves use a meticulous process much like this to build up their files, using Steinberg's *Pro-24* sequencer – and this attention to detail means perfect results.



● The final element is the cabasa. You now have a complete rhythm section, which you can hear from the excellent Hands On demo song on the Cover Disk. All you need is a MIDI instrument to play it on!

JARGON BUSTERS

MIDI Pan: A MIDI command which enables you to affect the position of any given instrument in the stereo picture.

MIDI Volume: A MIDI command which enables you to affect the volume of the sound being played.

Multi-timbral: A synth which can play many independent sounds at the same time. So the same sound module could be playing drums, bass, piano and so on.

Note-stealing: Once the polyphony of your instrument is exceeded, playing more notes makes some of the existing ones disappear.

Polyphony: The total number of notes that your synth can possibly play at one time. Roland's new Sound Canvas has a polyphony of 24 notes; others can even go up to 30 notes.

Quantising: Moving notes to where you intended to play them. Causes a "tightening up" of the music.

sequences for their work. However, the library is constructed so that there are excellent choices for everyone, amateur and pro alike.

How do Hands On put a song together? First, about a day is spent scoring each of the individual parts of the song, including the individual drum and percussion instruments. Then, all the parts are played from keyboard and recorded to sequencer in patterns. The drums and percussion are played in and recorded onto individual tracks – Dave usually allocates 11 tracks for the drums and percussion – and then mixed down onto two tracks. That's the joy of MIDI – you can mix tracks together without losing any information, the total opposite to "bouncing" tracks on a tape recorder. Bass comes next, along with any necessary pitchbend, and is followed by the main chord part, which is often an electric piano,



● The Hands On crew, left to right: Dave Clackett (Managing Director), Janice Welstead (Administrative Director), Paul Young (Technical Director) and Mike Johns (Programming Consultant).

organ or synth pad. Any unnecessary notes are removed – that is, notes which are already being played by the bass. "You don't use a six note chord; the bass takes care of one note so you don't have to worry about that, and then you decide what are the three most important notes for that chord," remarks Dave. Next comes the string and brass lines, with the vocal lead line being recorded last of all. If needed, the backing vocal lines are also recorded.

Hands On's library includes 250 titles from "Jingle Bells" to Holst, Madonna and "I'm too sexy"

Do Dave and Paul use expensive equipment? No way! Dave plays everything in from an old Yamaha DX7 while Paul uses the small Roland PC200 plastic keyboard which goes with the Roland Desktop Music System. With the CM-64 and Sound Canvas, Hands On probably use less equipment than you.

There are two types of Hands On sequences – GIG sequences are chart songs written to run with the Roland CM32L or MT-32 sound modules, while the *Masterclass* classical works are set up for the →

TEN TIPS ON PRODUCING YOUR OWN SEQUENCES

❶ Always pay careful attention to the polyphony of your sound module. If you can set reserves for the various voices, do so. There's nothing worse than an important instrument like the bass cutting out. Hands On reserve one note for the bass and three notes for the main chord instruments.

❷ Make the length of a percussion note as short as possible – either "durate" the notes to the shortest possible value or manually set the Note Off as close as possible to the Note On. This helps the polyphony.

❸ After quantising an instrument, back off the end of the note by a small amount. This creates a space for pitchbend to reset itself and for a patch change to be sent if needed.

❹ For ease of use, dedicate one track of your sequencer for patch changes and another for doing fade-outs via MIDI Volume if possible. These can then be edited more easily rather than having to search for the data on all tracks.

❺ There is little point having a synth sound playing a five note chord when the bass is playing one of the notes and maybe another synth is also doubling up. The maximum number of notes you should need for a synth chord is three, no matter what the chord.

❻ Make sure you delete any double notes, especially when playing a fast high hat rhythm from a keyboard. Doubles cause a lot of problems with MIDI Files and again affect the polyphony.

❼ Program echo into your sequences. Duplicate an instrument on another track, reduce the MIDI Volume, delay it and use MIDI Pan. Very accurate echoes and a highly tasty result without an echo unit!

❽ Preset MIDI Volume and Pan at the start of each sequencer track.

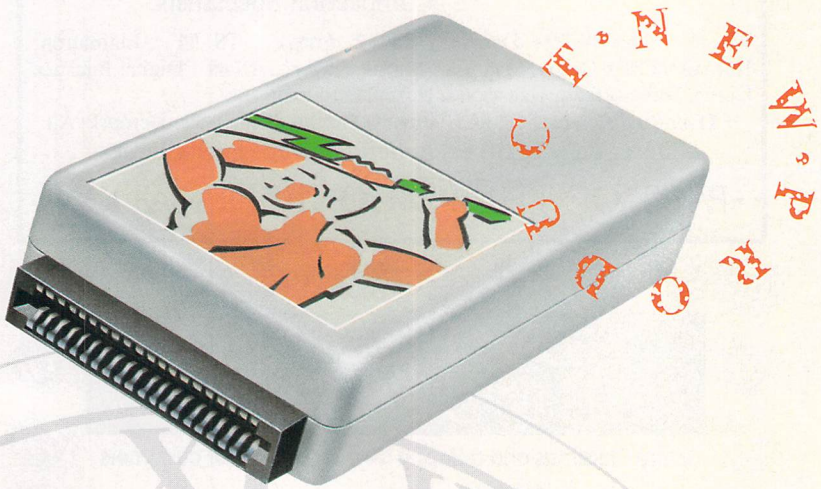
❾ Snippets such as pitchbend or modulation don't need to be recorded each time. Save them as an individual pattern or part, load them when you need them and paste them into the right place.

❿ It's always a problem dealing with time signature changes. Instead of using a 24 bar, use a 44 bar at double the tempo. Similarly, for a 34 bar, use a 44 bar at 1.5 times the tempo.



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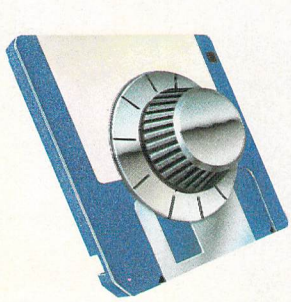
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Roland CM-64. Of course, with the careful listing of information that Hands On provide, you can easily configure a song to the multi-timbral sound unit of your choice.

THE FUTURE

Through their work with MIDI sequences, Hands On have become aware of a gap in the market for an ST-based MIDI-File player. But can't you simply use a sequencer? Yes, but then you need the monitor, and what Hands On have in mind doesn't need one. Mike Johns, another of the Hands On team, has designed software which simply plays back MIDI Files by using the ST numeric keypad and Spacebar to choose the number of the song on disk and play, pause and stop. You don't need a screen! However, to provide a simple "traffic-light" system to show you the current situation, Mike is also designing a piece of hardware which plugs into the 13-pin ST monitor port. The software will also be able to load the next song while still playing back the current one, so giving a live musician the rapid access he needs. The MIDI Music Show in April 1992 is intended to be the launch date of *On Stage*, and the RRP should be less than £100. Be certain that you read about it in *ST FORMAT* first! There is also the idea of having *On Stage* using a monitor screen on which you have the lyrics for a song appearing – a kind of ST Karaoke!

Hear a sequence and you may be amazed that everything is coming from one small synth

HOW GOOD ARE THE SEQUENCES?

Listening to one of Hands On's creations is quite an experience. Accurate to the original? Definitely. Lively to listen to? Certainly. In fact, Dave and the gang have put together a song just for *ST FORMAT* readers and it's in MIDI File format on this issue's Cover Disk! Called "Hands Off," it starts with a one bar patch change setup and high hat count in, followed by eight bar patterns for verse, chorus, verse, chorus, solo, verse, chorus and double outro. Six percussion instruments, bass synth, acoustic piano, synth pad, two guitars, strings, brass and solo sax make up a fair old song. You can chop around the eight bar sections and re-arrange the song in any way you like. Hands On have also included an information file with the song which describes the type of instruments for you. Have fun!

If you get the chance to hear one of Hands On's sequences on Roland's Sound Canvas in your local music shop, you may be amazed that everything is coming from one small multi-timbral synth. As Dave says, "It's fun, but there's also a sense of achievement when you drive these little boxes pretty much near to destruction. People ask us, 'How do you do it?' It really comes down to knowing your sequencer package and instrument." ***stf***

HANDS ON ROLAND

In late 1989, Hands On approached Roland and showed them what they were doing with the D-110. Roland were then promoting their Desktop Music System, which consisted principally of a small keyboard and a couple of sound modules, the CM-32L and CM-32P. To go with this system, Roland had a music sequencer program called *Tentrax* written for them and needed some music data disks to supplement this. So, Hands On put together ten disks with six songs each, which became the *Tentrax* Music Library. These included TV and film themes, various chart hits, as well as big band and jazz. These were then released by Roland in December 1990.

There is a further connection between Hands On and Roland. Paul has written the demos which are being used around the shops to demonstrate Roland's MIDI File player, the *Sound Brush*, with their Sound Canvas sound module.

WHERE TO GET IT

- **You can get a demo disk from Hands On for £5, refundable on your first purchase, plus £1 p&p. Any four chart hits or two classical pieces cost £20.95 plus £1 p&p. Hands On Midi Software Ltd, 14 Lodge Road, Bedhampton, Havant, Hants PO9 3LL, ☎ or fax 0705 452628 – phone for a free copy of the latest Winter 1991 software catalogue.**
- **C-Lab's *Creator* is £330 from Sound Technology ☎ 0462 480000. Steinberg's *Pro-24* is now superseded by *Cubase*, £575 from Evenlode Soundworks ☎ 0993 898484. Roland's SE55 Sound Canvas sound module is £499 from Roland ☎ 0252 816181. Many of the MIDI instruments mentioned have now been discontinued but may still be available in the shops – to enquire about the one you're interested in, contact Roland, Yamaha (☎ 09083 66700), or your local music shop.**



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Express yourself!

Couch potatoes, read no further! Your ST is not just for staring at, or just for playing games on – it's actually the greatest aid to self-expression since the megaphone. This month's *STF* is *the* place to get creative with our special "Get you started" supplement – see how your ST can help you bring your ideas to life. Neil Jackson, Ed Ricketts and Vic Lennard begin by exploring the possibilities and show you how you can let it all out

Music

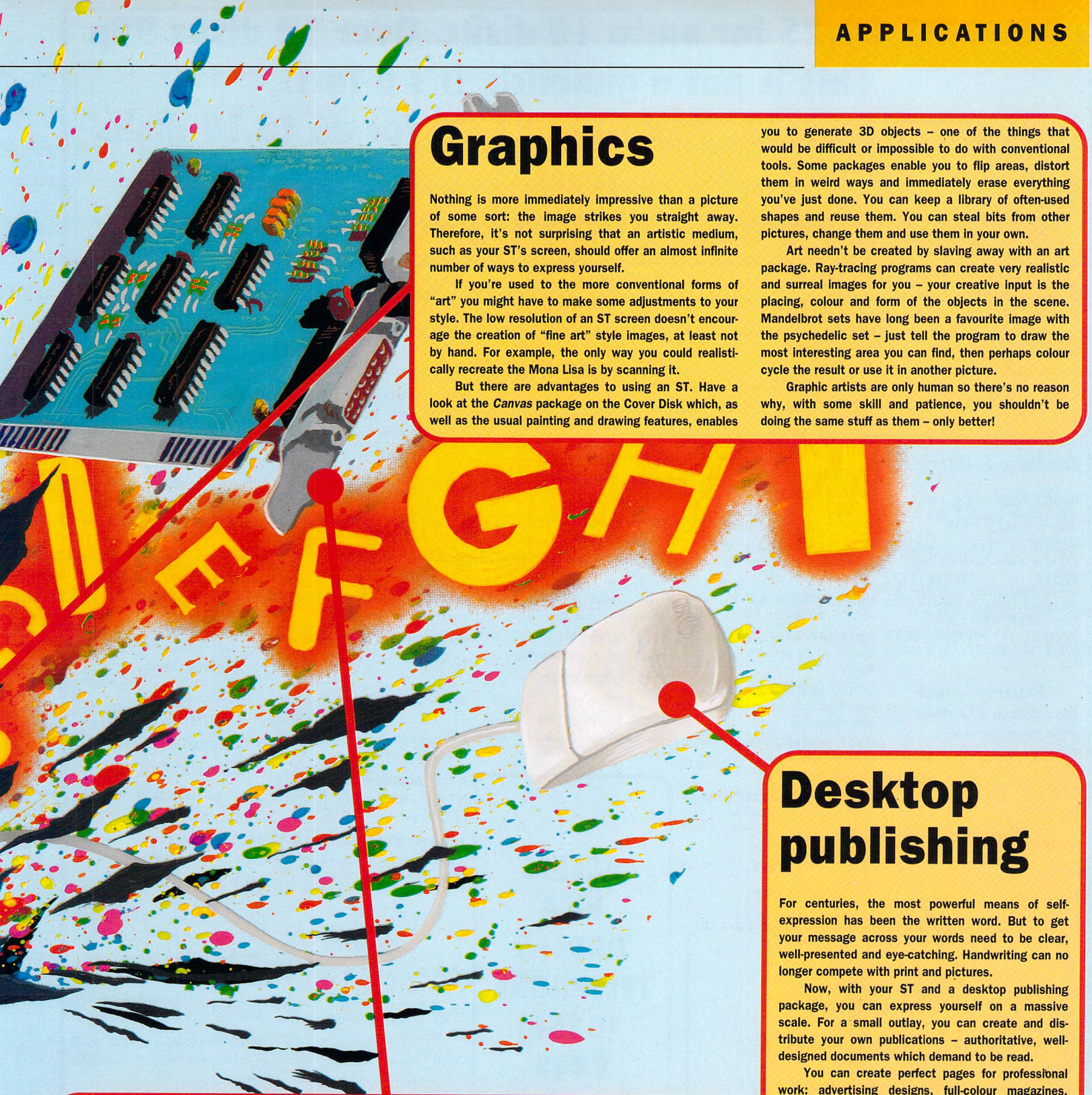
The ST is *the* music computer – to put a pair of MIDI sockets on the side was a masterstroke. MIDI – Musical Instrument Digital Interface – enables you to connect your ST to keyboards and sound modules without needing an extra piece of hardware – an unequalled situation on any other micro.

Software writers have flocked to produce music software for the ST. Few programs use the internal sound capability of the ST since on the STFM the only easy way of accessing direct sound from the machine was via the ST monitor speaker, which is pretty dire. The STE has stereo sound capability and a pair of audio output sockets for direct connection to a sound system, but the dismal tunes you get in most games show how dull sound-chip music can be.

One of the joys of working with music software on the ST is that you don't actually need much musical ability to be able to get good results. You certainly don't need to know anything about writing music in notation or any other form – you soon pick up the basics of rhythm and melody by what sounds and feels good to you.

The software includes sequencers, auto-accompaniment programs and samplers. There's no better place to start than right here with *Sequencer One* on the Cover Disk – and you don't even need any MIDI gear. In the PD, prices range from £3.50 for a sequencer through to over £1,000 for a commercial digital recording package. Sequencers form the vast majority of ST music software, and even the relatively cheap packages for less than £100 can give you professional results with a MIDI keyboard and a multi-timbral sound module – that is, one capable of making the sounds of many instruments at once. Many chart-topping songs and even Oscar-winning film scores have been recorded on ST sequencing programs.





Graphics

Nothing is more immediately impressive than a picture of some sort: the image strikes you straight away. Therefore, it's not surprising that an artistic medium, such as your ST's screen, should offer an almost infinite number of ways to express yourself.

If you're used to the more conventional forms of "art" you might have to make some adjustments to your style. The low resolution of an ST screen doesn't encourage the creation of "fine art" style images, at least not by hand. For example, the only way you could realistically recreate the Mona Lisa is by scanning it.

But there are advantages to using an ST. Have a look at the *Canvas* package on the Cover Disk which, as well as the usual painting and drawing features, enables you to generate 3D objects – one of the things that would be difficult or impossible to do with conventional tools. Some packages enable you to flip areas, distort them in weird ways and immediately erase everything you've just done. You can keep a library of often-used shapes and reuse them. You can steal bits from other pictures, change them and use them in your own.

Art needn't be created by slaving away with an art package. Ray-tracing programs can create very realistic and surreal images for you – your creative input is the placing, colour and form of the objects in the scene. Mandelbrot sets have long been a favourite image with the psychedelic set – just tell the program to draw the most interesting area you can find, then perhaps colour cycle the result or use it in another picture.

Graphic artists are only human so there's no reason why, with some skill and patience, you shouldn't be doing the same stuff as them – only better!

Desktop publishing

For centuries, the most powerful means of self-expression has been the written word. But to get your message across your words need to be clear, well-presented and eye-catching. Handwriting can no longer compete with print and pictures.

Now, with your ST and a desktop publishing package, you can express yourself on a massive scale. For a small outlay, you can create and distribute your own publications – authoritative, well-designed documents which demand to be read.

You can create perfect pages for professional work: advertising designs, full-colour magazines, brochures and leaflets are all within reach. And you don't have to invest in a factory-sized printing press. Many DTP packages produce good quality output from a laser or a standard dot matrix printer. If large-scale distribution is your goal, some DTP programs can save your designs so that professional printing firms can use them without costly setting-up.

DTP gives you the power to put your ideas into the hands of others far more cheaply than ever before. You can start with a low-budget package for little more than the price of a couple of CDs to find out what DTP offers. It can give your words and ideas a previously unthinkable image and personality. Then, expand your scope by improving and developing your designs and skills, mastering things like typefaces, logos and layouts as you go.

Several years ago it was impossible to get your ideas in print – unless you were well-off or lucky and talented. Now DTP puts mass-media power within your grasp.

Programming

If you haven't already started programming, you may be wondering how it fits into the category of self-expression. It seems like a lot of mumbo-jumbo, techno-speak and brain-taxing nonsense – but any programmer can tell you he has more creative power than an artist, a musician and a designer put together. Why? Because he knows how his machine works and how to make it do the things he wants. While the rest of us are waiting for that elusive and indispensable program which is going to solve our problems, the programmer is writing his for himself.

There are several different languages for the ST, and they're usually either slow and easy-to-learn, or fast but confusing. The easiest language to get to grips with is BASIC. It contains many powerful instructions which can be easily understood by humans as well as your ST. This makes the job of testing much simpler for the inexperienced programmer. A slightly tougher language is C. It's less readable, but it generally runs faster than BASIC. It uses some difficult-to-understand structures which are not immediately obvious to the beginner.

Toughest of all is raw machine-code, known as assembly language. This uses highly complex instructions which the ST's 68000 processor understands. Programs are usually very large and difficult to de-bug, but have the advantage of running very fast.

Choosing the right language to start learning programming may ultimately determine whether you can stick with it and develop your new skill. Some languages are highly complex and fast, while others are easy to master but slow as a result. As you broaden your knowledge of programming and your ST's inside secrets, you're likely to want to move up a gear – into a faster and perhaps more convoluted language. It's a good idea to take things one step at a time, but soon you can unlock the hidden power of your ST and really make things happen.

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**C* = Colour Res*
**D* = Double sided disk*
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Wordprocessing & Desktop Publishing

W001-006 TEX, 6 disk pack, includes TEX the document processor. *M*.

W008 1st WORD Wordprocessor. GEM based

W015 HYPERTEXT: Shareware prog, suitable for the production of very professional documents. *MD*.

WO17 ST WRITER ELITE V4.1 top quality wordprocessor.

Educational

E002 WORLD MAP GAME

E004 SPELLING made easy

E011 TYPING TUTOR (2) with full documentation.

E013 MATHS MADE EASY Another great program with speech

E014 KIDGRAPH, KIDMUSIC, KIDPIANO, KIDPOTATO *C*

E023 COLOURING BOOK. Superb program for the young.

Desk Accessories & Utilities

U001 Dir printer, RAMdisks, snapshot saves screens to disk. Desk acc. loader.

U008 68000 ASSEMBLER, an address/mailing list. Label printer+.

U011 DIY DEMO, create demos featuring a title screen & scrolling message.

U030 AMC GDOS, Atari's replacement for GDOS, used the same.

U033 MX-2 V2.3 a multi-tasking/user environment. Up to 7 concurrent tasks. *D*.

U034 DOUBLE CLICK format v3.03 9/10 sectors, 80/82 tracks.

U035 DEC edit clone, disk engineer v3.01 do almost anything to a disk.

U040 AUTOGEM autoboots Gem programs when booting. VC spreadsheet.

U041 ADDRESS LOG, limited address book & label printer & a disk cataloguer.

U046 SUPER VKILLER detects 5 different viruses, recognises 7 anti-viruses & 133 other types of boot sector.

U052 GEM PLUS variant of Neodesk.

Games Disks (colour unless stated)

G069 STOCKMARKET wheel & deal. **GALACTIC WARRIORS** shoot 'em-up.

G084 FLOYD THE DROID ultra fast shoot 'em-up.

G102 CENTAURI a horizontal scrolling shoot 'em-up.

G106 VIRUS a game with great graphics and sound.

G108 FLYOVER a bombing raid game with a reasonable level of difficulty.

G109 GLOB you collect cherry cakes while avoiding pursuers.

G111 TRACKER you drive your tracker through enemy territory.

G112 OVERLANDER a good shoot 'em-up.

G113 CHANCE the Archons have taken over a space platform close

Graphic, font and art/drawing disks

A005 PALART excellent art program with full docs on disk. Excellent features. *C*.

A012 DOODLE this disk has the original mono & colour versions. Also some Mandelzoom pictures.

A013 ST GRAPH a comprehensive graph program. Handles bar, horizontal bar, stacked bar, line & dot charts.

A015 FONTS2 7 screen & desktop fonts. Columbia, Devoll, Hudson + more.

A018 CANVAS a great art package that fully supports the STE.

A020 PALETTE MASTER A good art package, up to 512 colours. *C*.

A027 ANI-ST excellent quality animation system. Draw the initial & final shapes & the ST draws the ones in between.

A029 MASTERPAINT drawing package, excellent features. Mono and colour.

A030 PICWORKS enlarge, reformat & manipulate pictures up to 3 times size. *M*.

Programming/ Language disks

P001 6800 ASSEMBLER

P012 CPM EMULATOR, this is a CPM-8 version 2.0 that runs at 2MHz.

P013 CPM UTILITIES, for P012

P020 SOZOBON C, probably the best PD C compiler with full K&R compiler support. *D*.

P022 SPRITE EDITOR, create & save your own sprites.

Communications Disks

C006 VANTERM 3.71 & 3.8 is just about the best PD communications package around.

Applications, spreadsheets, databases, etc.

S001 DATABASE 1, this is a GEM driven database.

S002 ST SHEET, this is a very good quality spreadsheet. *C*.

S005 B/STAT V2.01, this is a sophisticated graphing & statistical analysis program. *DX*. SDATA, high quality DTB with custom screen layout. Full docs.

S011 DOUBLE SENTRY, an excellent fully working accounts package (no VAT).

S013 INVENTORY PRO V2.0 is a fully featured stock control system.

Clipart

C002 Various human figures, different cartoons, titles & more.

C003 Sports figures-high quality, July 4th logos.

C010 Occasional clips, various characters.

C011 Fruit & vegetables.

Music

M001 COMPOSER a music creation program.

M013 MUSIC WRITER this program lets you create music on screen.

M016 CASIO CZ SOUNDS & EDITOR.

M018 ACCOMPANIST 2.3 full featured midi sequencer. *C*.

M020 BIOS music construction kit.

M021 PERCUSSAMAN is a 4 track, 16 instrument, digitally synthesised sequencer. *X*.

Games disks (colour unless stated)

G018 RUSH move the bricks in order to create a way out.

G020 YAHTZY, popular.

G022 COMPANION, shoot 'em-up mission in outer space.

G027 DIE ALIEN BLOB, great shoot 'em-up, excellent.

G032 BALLER an arcade castle & cannons game graphic adv. *M*.

G033 ADVENTURE WRITING SYSTEM, create adventures.

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→ DESKTOP PUBLISHING

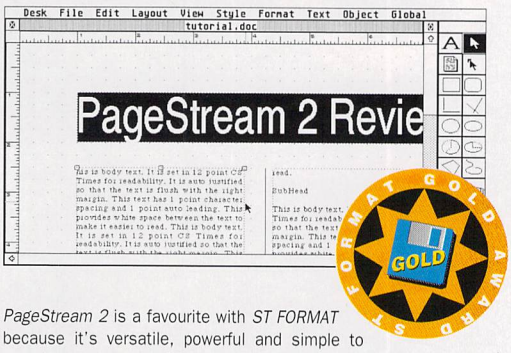
Armed with a desktop publishing package, there's a great deal you can do. All forms of written text benefit from better presentation, from simple letters and invitations to adverts and newsletters. The process of smartening up pages takes a bit longer than you normally spend with a standard word processor, but the results are in a different league. To get the most out of your DTP package you need a memory upgrade for your ST – the bigger the better. Large documents, especially those with pictures on the pages, take up a great deal of space.

Most DTP programs generate a bitmapped image of each page in memory, so that it can be printed – a small memory space means this is done in small chunks, and it can take ages. With a little effort, you can turn your DTP package into an investment and a source of income. Anyone who needs a clear and attractive document could be a prospective client for your DTP service.

You can make money by preparing CVs for interviewees, catalogues for small businesses, or even business cards for executives. In fact, if it's on paper, you could turn it into cash with just your skills and your DTP program.

PAGESTREAM 2

£199.99 SoftLogik/Silica ☎ 081 309 1111



PageStream 2 is a favourite with *ST FORMAT* because it's versatile, powerful and simple to use. It works on any ST, though the more memory you have the better, because this helps speed up the printing stage.

PageStream 2 uses vector-drawn fonts (typefaces), which look good when re-sized, and supports a wide range of industry-standard typeface formats. This, plus the various print-to-disk-file options and printer drivers, makes it possible to use *PageStream* for low-cost production of designs intended for mass-duplication at a printer's.

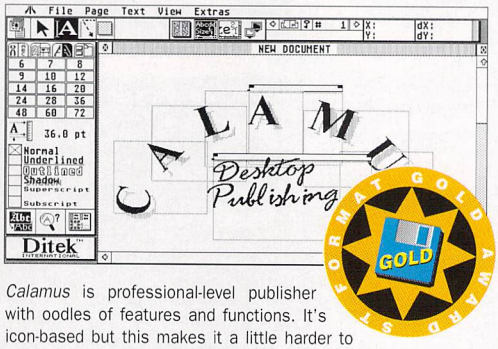
It's the only package which can handle colour-separated output for producing full-colour documents on professional printing presses. But it also supports colour output on inkjet and dot matrix printers too – making it indispensable for all levels of publishing.

There's a vast number of add-on printer drivers, image and text import modules, and fonts with which you can continue to upgrade your system.

***STF* Rating: 96%**

CALAMUS

£258.75 Signa Publishing ☎ 0252 370066



Calamus is professional-level publisher with oodles of features and functions. It's icon-based but this makes it a little harder to get into. There's an on-line help facility to guide you through some of the less obvious buttons.

Calamus is less flexible than some other packages because you need at least 1MByte of RAM and a high resolution monitor to run it. To its credit, *Calamus* produces high quality output and its screen display is the best around, thanks to superb vector fonts.

Professional users may experience problems with professional print-shops because documents are stored in a *Calamus*-standard, rather than industry-standard system.

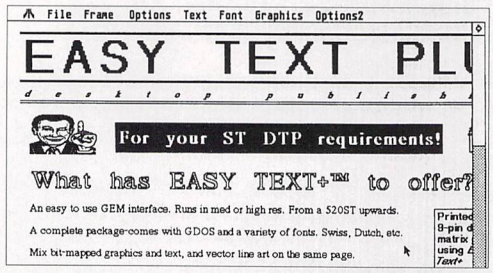
Calamus can't handle colour output, so only monochrome pages can be printed. This problem should disappear with the release of the full-colour *Calamus SL*, due soon.

Not recommended for the beginner because of its high price and complex functions, but great for a pro who needs crisp clear results every time.

***STF* Rating: 90%**

EASY TEXT PLUS

£19.95 ZZSoft ☎ 0254 672965



For the cheapest DTP program on the market, *Easy Text Plus* is surprisingly versatile. It runs on all STs in medium and high resolution using GEM. It's an ideal package for learners because it produces results quickly and simply.

It doesn't have as many features as the expensive packages, but it has all the important basics. You can import files from *1st Word* or *ST Writer* and flow them onto pages with justified margins (like proper typesetting, not ragged like typing) in common styles like bold, italic and underlined. You can edit text on-screen and use block commands to cut and paste. GDOS fonts are used for printing and displaying, and these are widely available in the Public Domain. (See the directory of PD libraries on page 80.)

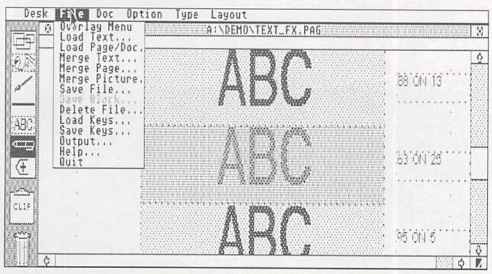
There are graphic commands for creating boxes and panels, but no colour capability. You can import images from *Degas Elite* for inclusion in your documents.

There's now also a professional-level version available for a mere £39.95.

***STF* Rating: 89%**

FLEET STREET PUBLISHER 3

£199.00 Mirrorsoft ☎ 071 928 1454



Despite being one of the oldest DTP packages for the ST, *Fleet Street Publisher* is still a powerful and useful tool. It works in high and medium resolutions on any ST.

It can produce Postscript-compatible output, so it can be used for large-scale print-runs, but the quality of output is not as good as that of *Calamus* or *PageStream 2*.

It has a range of graphic commands and image import functions, but it can't handle colour output. It can create text in linked columns for newspaper-style pages, but it's unable to rotate text, which limits its design possibilities.

The inclusion of a spell-checking dictionary makes it handy for important documents, but *PageStream 2* and *Calamus* also have this facility. At nearly £200, *Fleet Street Publisher* is a bit over-priced, especially when compared to *PageStream 2*, which has more features to offer for the same price.

***STF* Rating: 87%**

CALLIGRAPHER

£139.00 (junior version £69) Working Title ☎ 0865 883233



Calligrapher is an innovative package which approaches DTP from a slightly different angle. It's more of a document processor than a publishing package, but it can do excellent DTP work with a bit of effort.

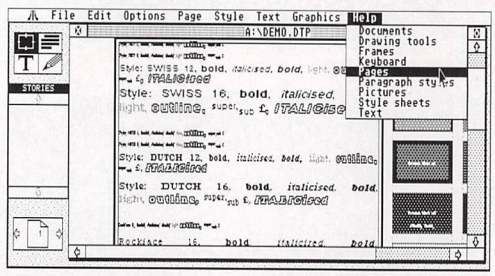
It has a great many features not found on other packages, such as a *Degas* picture processor which enables you to alter images as you import them. GDOS fonts form the basis of *Calligrapher's* text, but the GDOS standard has been added to, enabling smooth vector-rescaling which prevents jagged edges on re-sized fonts.

Calligrapher doesn't have the versatility of a full-blown DTP package and can't handle things like text-flow across columns, but it still uses many DTP methods to create pages. It's a good place to start if you're not interested in regular publishing but still want to produce good letters or notices occasionally. If you want to get a taste of its features, try *Calligrapher Lite* – it isn't suitable for large documents, but Atari have released it for under £30. Contact your local Atari dealer or Silica Shop ☎ 081 309 1111.

***STF* Rating: 85%**

TIMEWORKS DTP

£99.99 Electric Distribution ☎ 0480 496666



A good intermediate level DTP package, *Timeworks* can handle most small-scale publishing needs. It's entirely GEM-based, so finding your way around is quick and simple. It can handle large documents with lots of pages, but it lacks many of the features normally associated with multi-page DTP programs.

Beginners are likely to find *Timeworks* accessible and easy to work with, but soon come up against its limitations. It can handle things like text-routing and pictures, but has no vector-fonts or colour potential to improve its output and display quality.

Timeworks' output cannot be used by professional print-shops, but there are plenty of printer drivers available for most popular desktop printers.

If you're looking for a place to begin your DTP, *Timeworks* offers a trouble-free way in. But you may find that, for less money, you can gain as much experience using *Easy Text Plus*, since you're bound to outgrow either package within a year or so.

***STF* Rating: 80%**

A320

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ART AND GRAPHICS

Nearly everyone has played with an art package at some time. It's easy to choose a brush and scribble on the screen, then mess around with a Block function – and it's a good way to get to know a package.

After that it depends on your natural talent. Some people find they're happier copying an image than creating one from scratch. This is no mean feat in itself; capturing the essence of a picture and transferring it to the very different medium of an ST screen takes skill and patience. Colours don't choose themselves, outlines don't just magically appear. When something has been copied you could then alter it, add to it – even improve it.

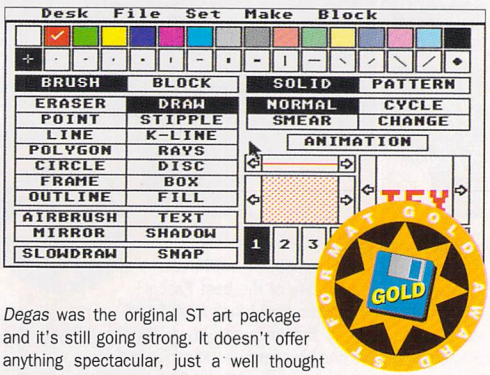
Creating something that's entirely yours may be easier. You don't have to worry about the original. You have more freedom. You can go wild thinking up new designs or perverting old ones. And the only person who can accurately judge the end result is yourself: only you know whether you did your best or not.

If you get really good you could make some money. Talented graphic artists are usually in great demand by software houses, and not necessarily for in-game graphics. With the rise of the intro sequence, publishers need people whose job it is to create fabulous graphics (see last issue). Because they're easy to freelance out – they don't depend on the progress of the game itself – intro sequences would be ideal for a talented amateur working from home.

If you can't afford a commercial package there are plenty in the PD. Try *Palette Master* for 512 on-screen colours or *Megablit* for a work area of 2,560 x 1,920 pixels. However you start there are always new techniques, tricks and subjects to tackle.

DEGAS ELITE

£24.95 Electronic Arts ☎ 0753 549442.



Degas was the original ST art package and it's still going strong. It doesn't offer anything spectacular, just a well thought out and well designed collection of tools.

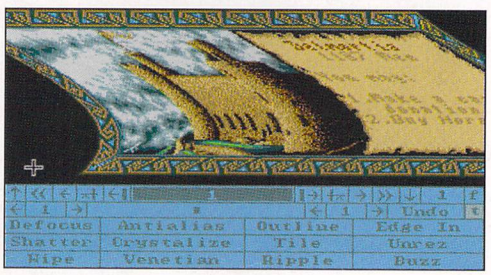
Ease of use is definitely *Degas'* strong point. One screen is used for drawing, one for the controls. Text is used rather than icons, so there's no confusion as to what a control does. Virtually all the drawing tools (brush, block, spray, text and so on) have a keyboard shortcut and, for once, these are easily remembered. Rudimentary animation is possible, but it's a slow and difficult process and best left to other dedicated packages.

Degas Elite has survived through the years because it's such an eminently robust and useable package. Unlike some other packages, it doesn't make the mistake of substituting complicated features for user friendliness.

***STF* Rating: 90%**

CYBER PAINT 2

£51.00 Electric Distribution ☎ 0480 496666



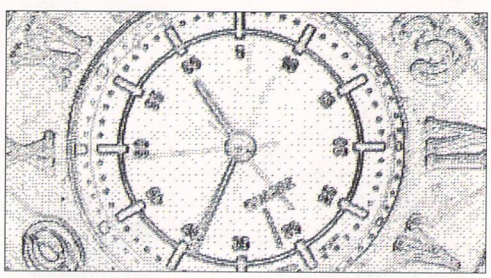
If you use *Cyber Studio* at all, you probably find *Cyber Paint* indispensable. It's the only package that can load and save the .DLT and .SEQ file formats used by *Studio*. Animation sequences can be stepped through frame by frame and the kind of detail unavailable with *Studio* can be added to give more realistic effects. But *CPaint* isn't limited to sequence editing. A full set of general drawing tools is included, so you can create traditional screens.

There are other specialised tools, too. Wonderfully weird effects can be added to either a single frame or a whole sequence: things like sine waves, anti-aliasing and outlining can transform staid animations into hyper-surreal lightshows (nearly). Other Quantel Paintbox type effects can flip your frames in or out of the screen in 3D and move them all over the shop, for that tacky Top of the Pops atmosphere. For the creation of traditional bitmap screens there are better packages than *Cyber Paint*, but there aren't many that beat it on animation.

***STF* Rating: 88%**

RETOUCHE

£150.00 CopyCare Services Ltd ☎ 081 679 7307



A high res only program, *Retouche* is designed for the retouching and changing of scanned and digitised images. It doesn't have conventional drawing tools as such, only functions that alter your original picture in some way.

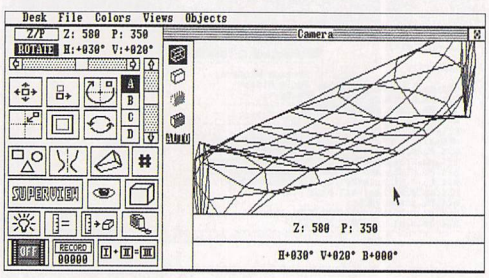
These functions have names like Charcoal, Brush and Water, which act in the same way as their real life equivalents. Adding Water to a picture softens the image and blurs its colour boundaries; Charcoal enables you to draw with the equivalent of a soft piece of charcoal. Block, zoom and masking functions can be used to alter small areas of the image.

There are several high res retouching programs in the Public Domain, but none of them come close to the power of *Retouche.* It's the only commercial program of its kind and, as such, can afford to be expensive. If you only dabble now and then with mono images, *Retouche* is an overpriced disappointment, but for professional use you have no other choice.

***STF* Rating: 81%**

CYBER STUDIO

£51.00 Electric Distribution ☎ 0480 496666



If 3D modelling is your bag, this is the package to go for. It's four years old but still virtually the only program for the ST that offers anything like true solid modelling capabilities.

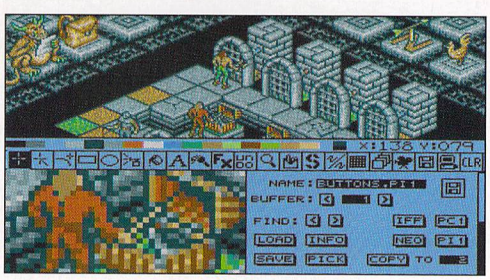
Objects can be created with the basic tools included (spin, extrude and join), or with the companion program *Cyber Sculpt,* a hugely powerful dedicated modeller (£58.69, also from Electric). They are then animated. This is done the painfully slow way, frame by frame, with *Cybermate* (included with *Studio),* or with yet another add-on, *Cyber Control* (£46.94 from Electric). This package enables you to write a script file that moves the objects, lamps and camera automatically, and also records each frame to disk for you.

Each object is composed of triangles, so the rendering system isn't particularly sophisticated. Complex shading (Phong, for instance) or raytracing isn't available. Nevertheless, *Studio's* been used to produce some of the most impressive animations seen on the ST over the years.

***STF* Rating: 79%**

DELUXE PAINT

£49.99 Electronic Arts ☎ 0753 549442



Deluxe Paint has virtually the same features as *CPaint* – they're just more difficult to get at. A very full set of drawing tools makes static picture and animation creation easy. Some of *DPaint's* features are, if not unique, at least rare. Stencilling enables you to mask off certain colours and draw selectively; Bézier curves mean there's no faffing about trying to join arcs to make smoothly curving lines. Special effects can help produce the Impressionist or Cubist atmosphere you're looking for, and, for once, all 4,096 of the STE's colours can be accessed.

The only criticism that could be aimed at *DPaint* concerns the awkward layout of its menus. Everything is selected by icons but these aren't the most intelligible things in the world. Some of the options appear where you wouldn't really expect to find them. And the program is prone to unexpected crashing.

Deluxe Paint isn't cheap but should earn its keep, provided you can work your way round its idiosyncrasies.

***STF* Rating: 78%**

SPECTRUM 512

£29.95 Silica Shop ☎ 081 309 1111.



With a name like this, it's obvious what *Spectrum's* gimmick is – the ability to display every one of the ST's 512 colours on-screen at once. It's no idle boast either, because you do actually see every colour even while you're drawing; there's no need to switch to a separate screen and wait for a redraw.

Of course, there are limitations. 40 colours per scan line is the practical maximum, though that's still better than 16. Speed, or lack of it, is the program's main drawback. Some of the functions can take an unacceptably long time to finish (gradient fills, for instance).

Fortunately the normal drawing tools haven't been excluded, with some special functions that take advantage of the extended palette. Three sorts of palette are available simultaneously, and there's an anti-aliaser and loads of block functions. On the down side, some obvious tools are missing: there's no Text function, no gridlock and no irregular polygon.

***STF* Rating: 74%**

PROGRAMMING

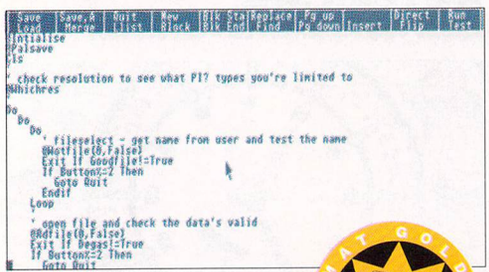
You only have to look at the vast wealth of programs you can buy to see what you could do if you tried. You'll encounter varying levels of difficulty, depending on your choice of programming language. Some programs (games mainly) require fast, machine-code routines which you need to write in assembler. Other programs, like databases, don't need so much speed, but they do need user-friendliness to make them useful. BASIC or C makes this kind of programming a lot easier and quicker. Embarking on a career as a programmer is a big decision. The rewards can be high, but generally only in the competitive games field. Crack programmers like Peter Molyneux can make a fortune, but many small-time developers live close to the breadline.

A better alternative might be Shareware – you write a program and partly disable it. Then when you distribute it via PD libraries and bulletin boards, users contact you and pay for a complete version. If your program's good enough you might make some cash – but it's still a bit hit-or-miss.

Writing and testing a big program can take a long time – over a year for some. So think twice about giving it all up to become a full-time programmer – it's probably only worth giving up your day-job once you've started to make some money on your first creation.

GFA BASIC 3

£64.95 GFA Data Media ☎ 0442 63933



A popular BASIC package, *GFA Basic 3* is a handy and powerful tool. It uses many advanced BASIC concepts like DO...LOOP, REPEAT...UNTIL and WHILE...WEND, which make looping functions easy. It also has commands to control GEM's internal features, making it possible to use windows, menus and dialogue boxes in your programs.

GFA Basic also gives you access to the ST's internal BIOS and XBIOS ROM functions, offering immense speed increases over normal BASIC instructions.

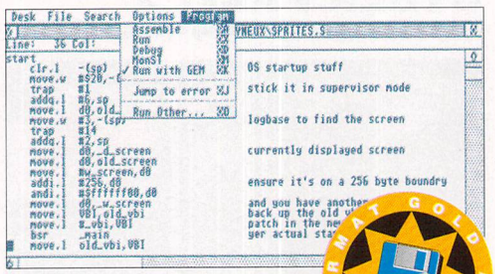
GFA Basic version 2 was released into the Public Domain, with the result that many PD programs are written in GFA. You can find plenty of listings to learn from if you're a beginner.

GFA Basic version 3 includes many powerful features not seen in version 2, and is supplied with a large detailed manual. There's also a compiler which turns BASIC programs into faster stand-alone programs that you can run from the Desktop.

***STF* Rating: 95%**

DEVPAC 2

£59.95 Hisoft ☎ 0525 718181



Devpac 2 is a very powerful assembly package that enables you to write in the ST's own internal machine-code language. It can create fast, efficient programs, but using it is a lot more complex than using BASIC. This is because the ST's machine-code instructions are small, single-operation commands which need to be repeated many more times than in BASIC.

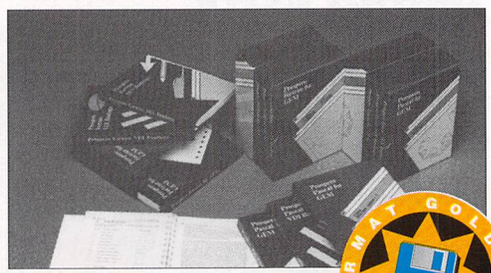
Learning assembly is akin to learning the way your ST works electronically – and to get anywhere you need a lot of patience and some good reference books. Unlike BASIC, when an assembly program goes wrong it usually crashes your ST and doesn't tell you why. This makes it difficult to write programs – but finding a way to fix the problems usually mean you've learnt something useful.

If you're serious about getting to grips with some "close-to-the-metal," machine-code programming, don't even think about missing *Devpac 2*. It could make all the difference to how well you get on.

***STF* Rating: 95%**

PROSPERO PASCAL

£99.99 Prospero ☎ 081 741 8531



Pascal is widely taught in schools and colleges, yet it's not very popular on the ST. *Prospero Pascal* is is one of the best Pascal implementations you can buy. It has a neat text editor which is really simple to use, thanks to its ability to use macro commands and keyboard shortcuts for editing.

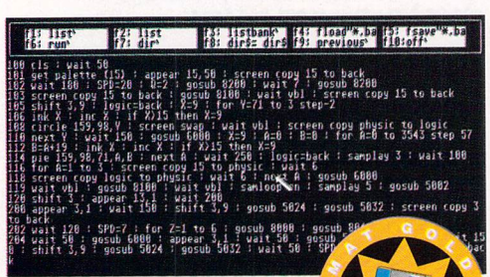
Included in the *Prospero* package is a debugging program, the compiler and the linker. These handle the bug-fixing and the donkey-work of joining all your individual Pascal routines together in one program.

Prospero also has an option which forces you to use industry-standard Pascal only. This makes it ideal if you're creating programs for use as coursework – and may even give you a head start over your classmates. Included in the package are several manuals which are great for de-mystifying GEM, plus a library of useful routines to help get you off the ground quickly.

***STF* Rating: 95%**

STOS

£29.95 Mandarin ☎ 051 351 2961



STOS is a favourite among game-programmers, thanks to its advanced features which make game-writing easy. It also has a solid base of BASIC instructions which provide great flexibility.

STOS uses operating system functions more easily than *GFA Basic*. The drawback is that they are marginally slower and don't allow direct access for fine-tuning.

STOS's simple commands enable you to set up interrupts, display and animate sprites, or play music and samples very quickly. You don't need to be a programming wizard to get results.

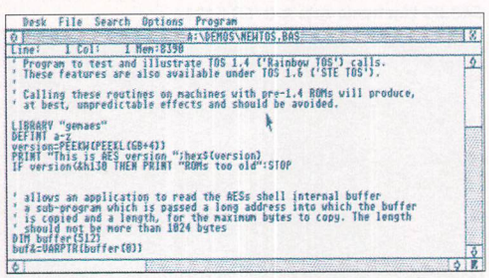
Unlike *GFA Basic*, *STOS* does not have any GEM functions, so you cannot create standard windows or menus. It does have a replacement system, but this isn't nearly as good as GEM.

The main drawback with *STOS* is its use of memory when compiling files. Minimum file size is around 60K, regardless of the number of lines in your program, because all the *STOS* library files are compiled along with your original program.

***STF* Rating: 92%**

POWER BASIC

£49.95 Hisoft ☎ 0525 718181



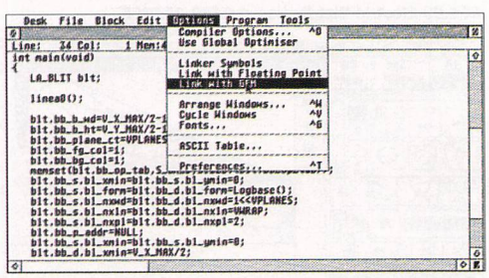
Power BASIC is a compiled language, which means you can generate smaller, faster programs than you can with normal BASIC interpreters. Compiled programs take slightly longer to write, but *Power BASIC* includes a powerful text editor to make the writing job easier. It includes many *WordStar*-compatible keyboard shortcuts for speed and ease of use, but most ST owners will never have used this old PC word processor in the first place.

Power BASIC is capable of compiling most programs written in *ST BASIC* (the one supplied with your ST), as well as *FastBASIC* and *Microsoft Quick BASIC* programs. This level of compatibility makes it very useful if you're trying to speed up existing programs which run slower on all these older BASIC versions. It also means you can get PC-compatible BASIC programs working on your ST – but why anyone would want to do this we're not sure!

***STF* Rating: 88%**

HISOFT LATTICE C

£49.95 Hisoft ☎ 0525 718181



C used to be the trendiest programming language available and *Lattice C* is the best version you can find for the ST. C bears a close resemblance to Pascal in its construction, but there are fundamental differences too.

Getting to grips with C is a difficult process and Lattice C has a few quirks which don't help. GEM windows are a particularly awkward area.

Plenty of reference material exists to help you learn C and you're likely to need some of it. *Lattice C* doesn't provide much to help the beginner master this powerful language. Error-trapping is almost as difficult as with assembly language, and it's particularly prone to missing or wrongly-reporting simple typing mistakes.

Once mastered, however, C is a useful tool. It offers you assembly-style control, but with BASIC-style ease of entry. But the days of C may be numbered, thanks to languages like *GFA Basic* which can produce programs that run faster than their C equivalents.

***STF* Rating: 87%** →

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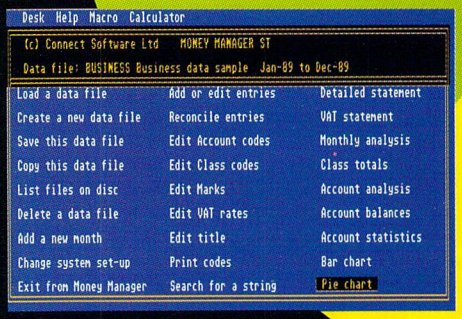
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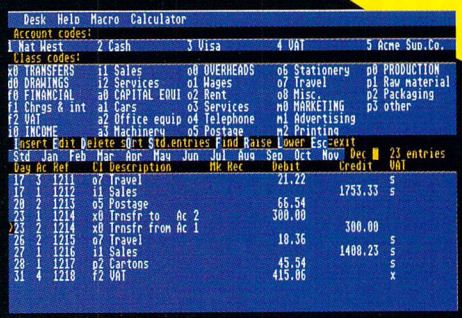
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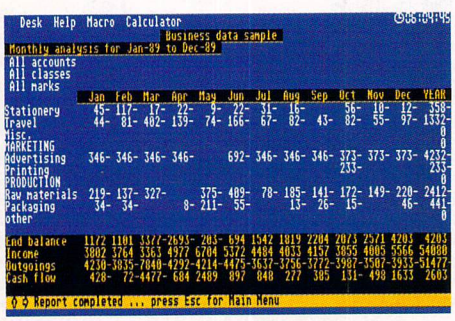
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→ MUSIC

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Most ST musicians have a sequencer. Generally, the more you pay, the better the facilities – especially for editing. If you make a mistake, you need to be able to see and correct it. This is the main advantage an ST sequencer has over a black box with no screen, however, most sequencers under £100 only have one editing page and can't handle some MIDI information. A sampler plays back prerecorded sound from a keyboard – your ST has all the memory you need for this. You need an interface for record and playback, and the relevant software for recording and editing.

Your ST can provide accompaniment in your choice of style, with a decent piece of software.

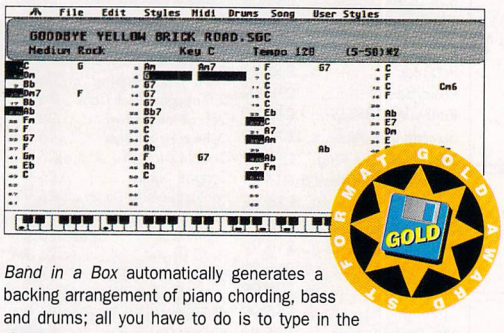
You might have a synth which can dump its memory to the ST. There are pieces of software which act as a librarian and enable you to save lots of banks of sounds onto a single floppy. You can also use a track of a sequencer to record the data to.

There's money to be made from the ST. Since MIDI files are song files which can be loaded into almost any sequencer, you could record and sell your songs. Same goes for original banks of sounds, and interesting samples for ST samplers.

But often, the greatest thing about using the ST for music is the power and versatility it puts at your fingertips.

BAND IN A BOX PROFESSIONAL

£69.00 Zone Distribution ☎ 081 766 6564



Band in a Box automatically generates a backing arrangement of piano chording, bass and drums; all you have to do is to type in the chords and select a style. There are over 75 styles available, including the likes of pop, rap, dance, Miami sound and so on.
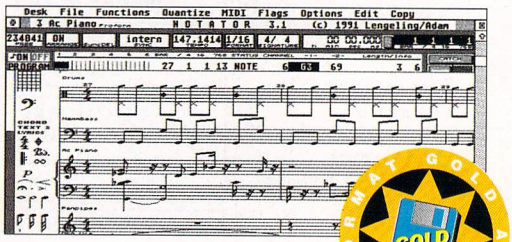
Band in a Box is exceptionally easy to use, but produces very good results as well. Additionally you can create your own styles – a process involving either playing in chord rhythms or using a drum note grid and then choosing how important each pattern you have played is. This leads to a degree of randomness to the playback; do a good job and you rarely hear any repetitive phrases.

Songs can be saved as MIDI Files for loading into and editing from another sequencer. *Band in a Box* can be used by anyone – from the amateur wanting some fun to the professional needing backing for live performance. And the next upgrade promises five-part accompaniment!

***STF* Rating: 94%**

C-Lab NOTATOR

£515.00 Sound Technology ☎ 0462 480000



Notator is one of the only programs for the ST which can create professional quality scores. The sequencer side of the program is the same as the cheaper *Creator*, so most people use *Notator* either because they want to program in notation or require a finished sheet of music.

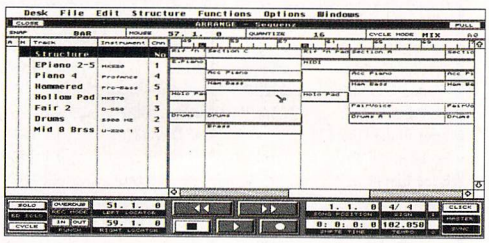
Sequencing on *Notator* is in the form of patterns, much like a drum machine, and up to four patterns can play at the same time. There is a good variety of editing screens, including the Matrix Editor, which uses a horizontal keyboard with flowing grid, and the main Score Editor. Facilities abound in the latter – keep the manual close to hand!

Notator enables you to save the score as an .IMG picture file for direct loading into a DTP program. This means you are not restricted to the 300 dot per inch printout of an inkjet or laser printer; with the appropriate DTP software, you can use a professional Linotronic phototypesetting machine.

***STF* Rating: 92%**

Steinberg CUBEAT

£295.00 Evenlode Soundworks ☎ 099 389 8484



Cubeat is the most visual sequencing program on the ST. The entire song can be seen as horizontal rectangles on the Arrangement page; these can be moved around, copied, cut (with a pair of scissors), erased (with a rubber), muted and so on. The right mouse button is used to access a "toolbox" from which you select the correct tool for the job.

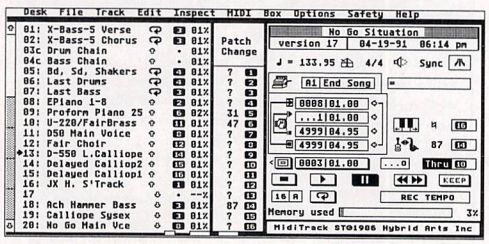
The editing screens in *Cubeat* are excellent. Key Edit gives you a vertical keyboard with notes shown as horizontal rectangles, Drum Edit gives you a grid similar to those found on good drum machines, and Grid Edit gives you all info as a vertical list of events. You can zoom in and out on all of Cubeat's screens.

Cubeat is a most intuitive program; you rarely need to look at the manual – although it is one of the better ones.

***STF* Rating: 89%**

Hybrid Arts EDITTRACK GOLD

£116.32 Atlantic Audio ☎ 071 272 8944, ext. 248.



For a sequencer costing only around £100, *EditTrack Gold* is great value – there is little to touch it. While most other sequencers make you work in the way that their programmers intend you to, *EditTrack Gold* is so flexible that no two people use it the same way.

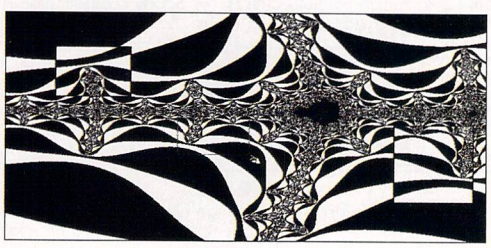
There are two types of sequencer: pattern-based (like a drum machine) and linear-based (like a piece of tape). *EditTrack Gold* is equally at home with either way of working. Editing features are practically limitless, including an on-screen fader for the real-time changing of tempo and other aspects of MIDI like volume and stereo pan.

On the editing side, the Graphic Editor is excellent, using a vertical keyboard with horizontal rectangles for notes. This has the visual advantage of allowing you to use white notes on a black background if you wish. Alternatively, the Event Editor enables you to edit MIDI events from a list.

***STF* Rating: 86%**

FRACTAL MUSIC COMPOSER

£65.00 Fractal Music Ltd ☎ 081 340 1871



Fractals are mathematical formulae which can create highly unusual visual patterns. Their randomness can then be applied to the creation of music. *Fractal Music Composer* is one program which does just that.

Fractal Music Composer comes as three main programs. *Mandelbrot Set Composer* uses a preset fractal image to create music, with you controlling certain aspects such as the number of musical tracks and note ranges. *Mandelbrot Set Zoom* enables you to choose an area of the Mandelbrot set and zoom in on it. This can then be used with the composer. The third program, *Julia Set Composer*, uses a different fractal set for composition.

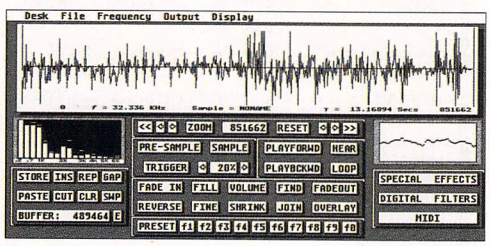
All the music created can be saved as a MIDI file and loaded into your sequencer, from which you can replay it or carry out edits. If you don't have a sequencer which supports MIDI files, you can use the *PlayMIDI* program, included free, for playback.

***STF* Rating: 85%**

● For more on fractals and fractal music, see the special features in *ST FORMAT* 28. If you missed that, turn to page 142 for how to order back issues.

PRO-SERIES 12

£245.00 Audio Visual Research ☎ 0582 457348



Pro-Series 12 turns any ST or TT into a sampler, using a small piece of hardware which plugs into the cartridge port. With a standard 1MByte of memory, you can still get over 17 seconds of sampling, and with 4MBytes of memory this improves to around a minute and a half (at 22kHz sampling rate). Audio quality is very good.

Three programs are included. The Editor enables you to record sounds via the input of the hardware and then edit the waveforms. It offers fade ins and outs, looping, 3D drawings of the waveforms for pin-pointing digital equalising, real-time digital effects and much more. *Drumbeat* gives you a sampling drum machine with four note output, while *MIDIplay* enables you to play your samples from an on-screen keyboard, including looping samples, pitchbend and different note ranges for different samples.

***STF* Rating: 84%**

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THE HARDWARE YOU NEED

MUSIC

The most obvious addition is a multi-timbral MIDI keyboard with internal sounds. Multi-timbral means that it can play many sounds at the same time – for instance, the Roland D-5 can play eight instruments and a rhythm section and typically sells for around £450. Similar facilities are offered by the Kawai K-1 for around the same price. Both are substantially cheaper second-hand. (You can reach Roland on ☎ 0252 816181, Kawai on ☎ 0202 296629)

You could buy a soundless keyboard and a sound module instead. Roland make a four octave keyboard called the PC-200, available for around £169, which is velocity sensitive and has pitchbend and modulation controls. You could then look for an old Roland MT-32 or Kawai K1r/m (both around £200). Sound Canvas by Roland is a new piece of gear, costs £499, but can play 16 instruments simultaneously!

Yamaha (☎ 09083 66700) have an entire range of multi-timbral keyboards under the title of PSS. The latest of these is the PSS-795, which costs £199.99. Its predecessor, the PSS-790, can be found for around £150 and offers auto-accompaniment, eight drumpads, an in-built sequencer and an amplifier with two speakers. Not full size keys, though.

You can get around the normal limitation of 16 MIDI channels by using a MIDI port expander. C-Lab, Steinberg and Hybrid Arts all sell their own bits of kit, but all of these only work with the software from the same manufacturer.

Few MIDI keyboards or sound modules have their own built-in sound system, so you also need an amplifier and speakers. You could use the family hi-fi, but be careful – it's easy to blow the speakers! Alternatively, you could play back through your ghetto-blaster.

Be prepared to hunt for keyboards and sound modules second-hand. They rarely go wrong and you can get some real bargains!

DTP

There are a few things that really help to unleash th power of DTP on your ST. Some are expensive, but ca be left until you've really cut your teeth on the topic The list below isn't essential, but if you start DTP with out any of these items, life may be hard work.

● Printer – either a dot matrix or laser printer will do The Star LC24-200 is a good, reasonably-priced do matrix available in four-colour or black and whit configuration, priced £433 or £304 respectively (Sta ☎ 0494 471111). (The LC24-200 was reviewed in *ST* 25: if you missed that, see page 144 for orderin details.) For more professional work, the Atari SM60 Laser printer is a good machine to start with – thoug you need a 2MByte ST to use it properly. It'll cost yo around £1,056 from Atari (☎ 0753 533344).

● Memory upgrade – the type you require (and th price) depends on your original ST. The more memor you have, the larger and more complex your docu ments can be. Power Computing (☎ 0234 843388 stock the cheapest kits, starting at £99. We reviewe memory upgrades for the ST in issue 25.

● Mono monitor – All DTP pages look far more like th final printout when they're running in high resolutio on a monochrome monitor. The standard Atari SM12 costs £140 (Atari ☎ 0734 533344), but you can bu over-sized A4 mono-monitors and interface them t your ST. Contact Titan Designs (☎ 021 415 4155) fo details on their Reflex Graphics system which enable you to do this.

● Scanner – DTP means pictures, too! The simples way to get images on paper is by scanning from pho tographs – that is, "reading" them into your ST's mem ory. All you need is a hand scanner or an A4 roller-fe scanner and the chunk of software included. Pandaa Marketing (☎ 0234 855666) have a range of excellen Mitsubishi scanners, priced from £200 to £600.

● Hard drive – big documents take up big space when you save them. You also need oodles of space t store all the different fonts you use on your pages Check out the list of hard drives in the Programmers Hardware panel opposite for a guide to the best deals.

PROGRAMMING

When programming, you soon find that the bog-standard 520 ST can be a hindrance as much as a help. Programs are often large fragmented chunks of code on disk which need to be linked together to produce a finished product. Because of this, a hard drive is the programmer's favourite tool.

There are oodles of suitable hard drives you can buy. Protar (☎ 0923 54133) do a range of hard drives from 20MBytes (£423, *STF* Rated 90%) to 160MBytes. Ladbroke Computing (☎ 0772 203166) supply hard drives with 52MBytes of space (£409, *STF* Rated 81%) right up to 105Mbytes. Any of these should be ideal for programmers.

Thanks to the inconsistencies of the various versions of TOS (the ST's operating system), some programs (usually assembly programs) don't immediately work on all ST types. A good programmer writes with this in mind – but few own all possible versions of the ST. Make sure you test your assembly programs on as many STs as you can beg, blag or borrow. BASIC and C are less susceptible to compatibility problems and consequently they're safer (but slower) languages to use.

If you're intending to make a career out of ST programming, you can join the list of Atari Developers. Atari (☎ 0753 533344) supply a developer's pack, with everything you need to know about the ST's abilities and deficiencies. You need to register to get hold of it and this means forking out nearly 200 quid – but for a pro, the developer's kit is the most important hardware you'll use.

GRAPHICS

Graphics aren't the sort of area that requires much hardware, but some extra equipment can improve your results and make the drawing process simpler. If you're still struggling with a TV it might be worthwhile investing in a colour monitor. No matter how good a TV you have, the improvement in the display with a monitor is staggering. There are two main choices: either the standard Atari SC1224 (£269, Evesham Micros ☎ 0386 765500, *STF* Rating 82%), which has a crisp display but tends to display colours too darkly, or the Philips CM8833 Mark 2 (£249.95, FutureWorld Computers ☎ 0234 218060, *STF* Rating 90%), which has stereo sound (great with an STE) and an excellent display.

You might also consider getting rid of the standard Atari mouse. Compared to replacement mice, it has a very low resolution and is awkward to use. Get hold of a Naksha mouse (see page 118 to order – *STF* Rating 92%) and you'll be amazed at the difference it makes.

For the heavy-wallet artist who wants to see his creations on the wall rather than just on the screen, a colour printer would be handy. Although they can't reproduce the screen exactly, clever driver software can do a good job. Try the Star LC200 nine-pin (£199, *STF* Rating 89%) or the Star LC24 200 24-pin (£299, *STF* Rating 80%), both from WeServe ☎ 0705 325354. The ultimate excess is a graphics tablet. The Cherry Digitiser Mark 4 from Cherry Electrical Products (☎ 0582 763100), reviewed last month, enables you to trace around printed images to accurately reproduce them on-screen. It's an expensive £534.63, but, is the best graphics tablet around: *STF* Rating: 88%.

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As with hard drives, we only stock one make - Frontier. Why? Because we never have any trouble with them. They fit nearly all types of ST and Martin (the owner) is a nice chap!

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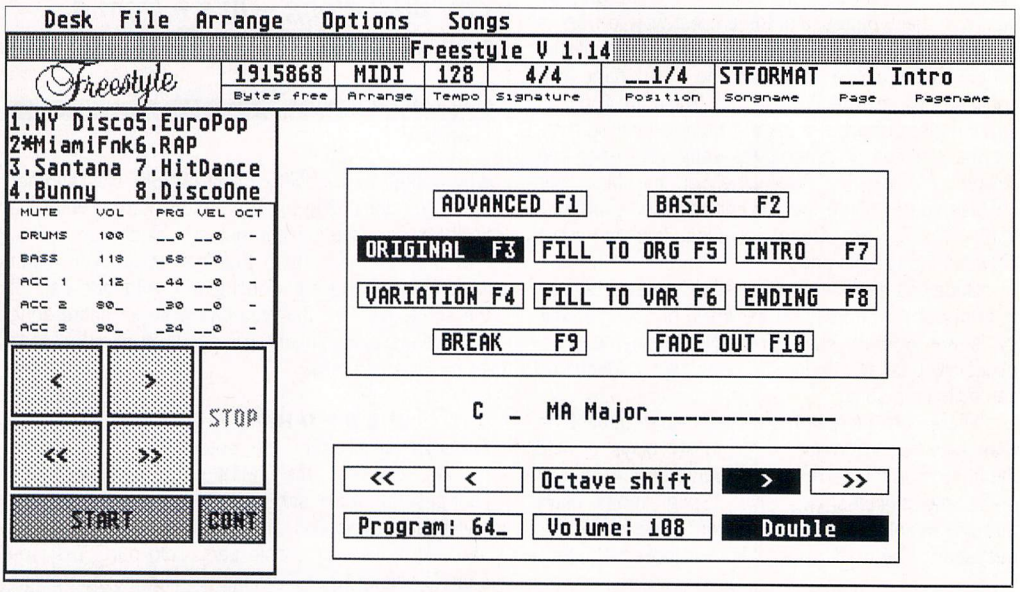
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Like to create your own auto-accompaniment, enabling your synth to play drums, bass and accompanying instruments while you star on the front line? Last issue *Band in a Box* earned *FORMAT* Gold for doing just that. Now Vic Lennard asks whether another contender, *Freestyle*, can match up to the standards set by that DIY karaoke kit

Few MIDI keyboards with accompaniment sections enable you to record the auto-accompaniments via MIDI to a sequencer. This means that if you want to take advantage of your synth's ability to play drums, bass and accompaniment instruments while you play the lead line, you have to rely on the very limited internal sequencer that most of these synths incorporate.

Of course, you might have an ST and simply wish to generate some backing tracks. This is where an accompaniment program like *Band in a Box* comes in. (It was reviewed last issue – see page 142 if you don't have a copy.) Now there's also *Freestyle*. This offers you drums, bass and three different accompaniment instruments with different styles and sub-styles. All you need is a multi-timbral MIDI sound module and you can immediately construct and play back song creations.

Freestyle offers drums, bass and three different accompaniment instruments with different styles



● ***Freestyle*** **is an auto-accompaniment program, which means you can create and play back songs. For live performances, "MIDI" enables you to change the sub-style and chord accompaniment from a MIDI keyboard.**

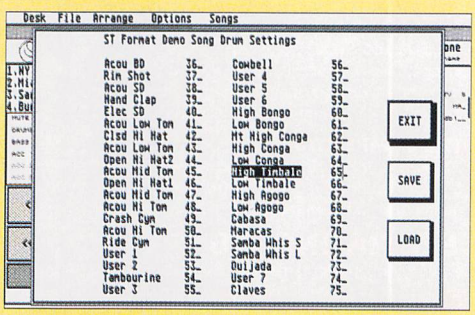
When you load up from the copy-protected disk, you are presented with a clear, well laid out main screen broken up into five main areas. On the bottom left are the transport controls, with the usual sequencer buttons for start, stop, continue, forward and rewind. Directly above this is the MIDI Mixer which enables you to directly control certain aspects of the five sounds. Above this is the Style List with eight slots – you can use up to eight different styles within a song and *Freestyle* gives you a total of 40 styles to kick off with. Along the top is the Main Bar with information like Tempo, Signature and Position (in bars and beats) while below this is the Leadsheet – the bulk of the screen where you input the one-bar chord Entries for your song.

The first thing you need to do is to ensure that *Freestyle* is set up correctly for the sound module you are using. A look at the "drumset" selection in the Options menu gives you a listing of the MIDI notes currently allocated to the 40 drum sounds available. Not sure if they are suitable for your module? A click on Load brings up the five drum maps currently provided for by *Freestyle*, which include Roland (loaded by default), Yamaha and Korg drum machines. If your module isn't included, you have to look in the manual and set the MIDI notes accordingly. Of course, you can save this to disk, so you only need to do this once. Now a visit to the MIDI Setup option enables you to set the MIDI channel for each instrument.

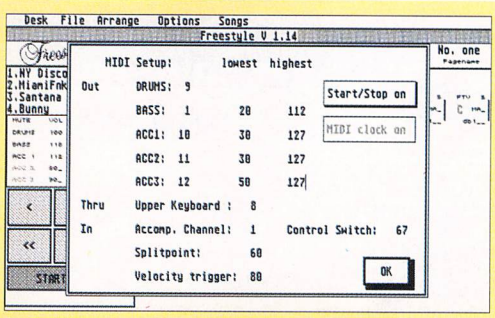
Creating a basic song is intended to be very simple. Each entry has five items which you need to decide on and can change by simply clicking on the various places in the entry. The first of these is the root note of the chord – C, C#, D and so on. Having chosen this, you then need to choose the type of chord. Here there are 13 choices, including the more common major, major seventh and minor chords through to the less common like suspended fourth and sixth. While this should satisfy most users, 13 chords really isn't enough for a program costing this kind of money – let's hope that more are added in a future update.

STYLE

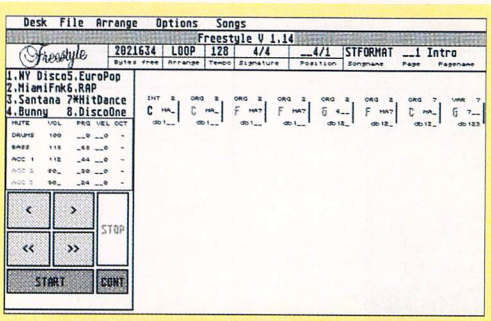
Next, you choose which of the eight available styles you want to use for this chord entry. The styles in the



● **To create an accompaniment track, first set the MIDI drum notes for your sound module. If you're in luck, a preset already exists.**



● **Now set the MIDI channels for each of the parts, along with the lowest and highest velocities.**



● **Next comes the good bit. Type in the chords for the first part of the song, choose the styles and sub-styles and which instruments are muted. Here is your finished intro.**

Style List are numbered and, of course, you can only choose from the styles that you have loaded in. Now you choose whether the style used is going to be the original style or one of the nine sub-styles. These include the main variation sub-style, two fill sub-styles and versions for break, intro and end. This number of sub-styles means that you are less likely to end up with a monotonous *boom-cha, boom-cha* feel throughout your song – unless you like *boom-cha, boom-cha,* in which case you can keep the original style throughout! Finally, you can decide which of the five available parts are going to be playing in this one bar.

One bar done, you can now copy this to the next position and change it as you wish to create the second bar in the song. If you find that you have missed a bar out, you can drop a bar on top of an existing one and it is automatically inserted. You then continue until the current section of the song is finished. What does current section mean? A song in *Freestyle* can have many pages, and the easiest way to work is to have each page equivalent to a section of the song. So page one might be the intro, page two could be verse one and so on. You can copy an entire page, or part of a page, to a new one, so making the creation of a complete song very easy and flexible. A click on "Pagename" on the Main Bar enables you to name the current page (or song section). Clicking on "Page" enables you to move between the various pages.

Once you have set up your song, it would be nice to print out the chords and bar lines, but such a facility is not offered within *Freestyle.* A shame, this, especially bearing in mind the open way in which you can build up a song.

There are three modes of arrangement in *Freestyle.* "Loop" mode continuously plays around the chords on the current page, during which you can make any changes you wish. "Song" mode plays through an entire song, moving from page to page as necessary. The third mode, "MIDI," is looked at later.

CONTROL

The MIDI Mixer also gives you control over the mutes, velocity, volume, octave and patch number of each individual instrument. While velocity and volume both appear to affect the "loudness" of an instrument, changing "velocity" can also alter the tone. "Volume" always affects the loudness as long as your MIDI module can respond to the MIDI command being sent to it. If you're working with a single sound module like a Roland MT-32 or CM-32L, there's a list of the 128 patch change names in two lists, entitled "program change A" and "program change B," where you can see the names of the sounds in your module. If you have a different module, make up your own list, save it to disk and load it when you use *Freestyle.*

Best of all, all MIDI Mixer manipulations can be done while the song is playing and those for mute and octave shift are then saved per bar. So, you can change the octave that an instrument is playing in while you are listening, and can also decide which instruments are muted out on playback – kind of recording extra information while you are listening to your song. Muted instruments are always greyed out.

There are other nice touches, like being able to click on any style name and automatically impose that style on the entire song. You can also remove a bar line to create a single bar from two chords, thus changing the chord in the middle of a bar. However, this means that two chords per bar is the maximum possible, which is a bit of a restriction – no snatched chords at the end of a bar.

Practically all of the menu options have key equivalents which only require a single keystroke.

In MIDI arrangement mode, you can play along – live – from a connected MIDI keyboard

Why bother with <Shift> or <Control> plus another key if you don't have to? The options here include the ability to copy the current mutes to all chords, and to split pages or join them together, which you might want to do if you are working with a looped part of the song. The fact that you can write an entire song in sections and join or split sections at will makes composing very easy.

PERFORMING LIVE

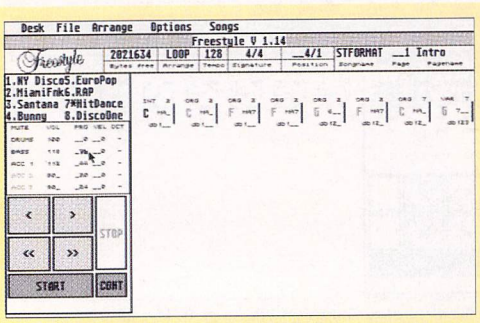
Freestyle also offers the potential for live performance. Entering the "MIDI" arrangement mode changes the main screen to one showing the ten styles and sub-styles along with the current chord and information for a solo part. Solo part? Yes, you can play along from a connected MIDI keyboard with the generated auto-accompaniment by playing notes above the "split" point set under the "MIDI Setup." By playing notes under the "split" point, you can also generate one of the 13 chord types which *Freestyle* recognises. Additionally, you can move between the "original" and "variation" styles via their fill-ins by playing with a velocity greater than that set within "MIDI Setup." Also, you can send out a patch change to the solo instrument and can change the volume and octave shift, as well as being able to "double" up the solo voice with notes an octave below, so fattening the overall sound. Other nice features in "MIDI" mode include being able to delay the left-hand chord and instantly transposing a chord instead of waiting until the next chord arrives.

Very neat for that wine bar or restaurant gig, or for simply playing along at home. Unfortunately, *Freestyle* can't transfer the chords you play within "MIDI" mode to the Leadsheet. It doesn't have sequencing capability – a major drawback when it's in the price range where you can buy a professional sequencer.

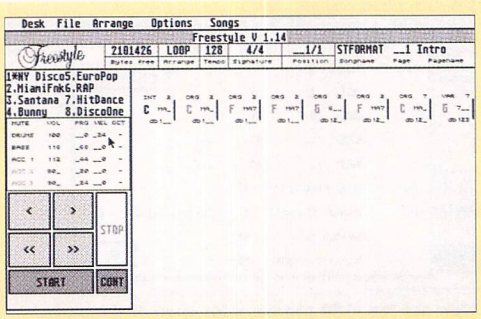
MUSICAL INFORMATION

Styles have been mentioned throughout – what are they? The easiest explanation is that they are musical information *Freestyle* uses to generate its accompaniment. You can create your own as long as you have a sequencer which is capable of saving a song as a MIDI File. You then have to go through a careful, and quite tedious, series of instructions to create the relevant "song" – drums and percussion, bass major, bass minor, bass seventh followed by the same types for each of the three accompaniments – 13 tracks in all. Each track is split into six parts: original, variation, original fill, variation fill, intro and ending. Since you can vary the number of bars for each type, you use the lowest MIDI note as a marker to show where one type ends and the next begins. You can then use the Generate Style command to create your own user-style from this MIDI File. But the variation in user-style is far greater in *Band in a Box,* where you can have up to 30 patterns with different weightings to decide which is the most likely to occur at any time.

While *Freestyle* has more accompaniment parts, it is certainly more limited in the variations between one bar and the next because of the restrictive way in which the styles are put together. There is a facility to add a randomness to the velocities of certain drum sounds, but it's hardly enough to prevent you from picking out the similarities from one bar to the next. Lyrics? Not really. While there is a notepad facility, it only gives you a ten line page for an entire song, on which you also have to keep any necessary notes. So, compared with *Band In A Box,* you have an easier manner for structuring songs, more instruments and better live performance aspects, but less variation in the "auto" side of the accompaniment and no printout. *Band in a Box* are adding more instruments, a top line and sequencing capability in the next upgrade. It's up to you if you want *Freestyle's* advantages urgently or are willing to wait. ***stf***



● **Playback in "Loop" mode so that you can change things, like the patch number for the bass sound...**



● **...or the velocity of the drums. You can set up the whole accompaniment track to suit your own style and play along with it – live. The live performance aspects are better than *Band in a Box's.***

FREESTYLE

£149.00 Zone Distribution ☎ 081 766 6564

FEATURES: 80%
Five part instrumentation makes for a complete accompaniment, but you need a sequencer which can save to a MIDI File to create your own styles. There's no printout facility and not enough choice of chords.

SPEED: 88%
Fast to work with – and changing styles, sub-styles and chords is simple, as is the setting up of mutes for each instrument per bar.

EASE OF USE: 90%
Good key equivalents throughout, including moving from chord to chord using the cursor keys, but not for movement between pages.

RESULTS: 80%
Effective accompaniment, but you can hear the same riffs and rhythms cropping up after a while – there's not enough random element.

THE COMPETITION
Band In A Box (£45 or £69 for the pro version including 52 additional styles), also from Zone Distribution. It was reviewed in *STF* 29 and earned 94% – that's it!

STF RATING: 76%

Easier song structuring, more instruments and better live performance aspects than the current version of *Band in a Box.* But with the style restrictions, lack of printout and no sequencing capability, it is difficult to see this beating *Band in a Box* once the next upgrade of that package is here – particularly since that is so much cheaper.

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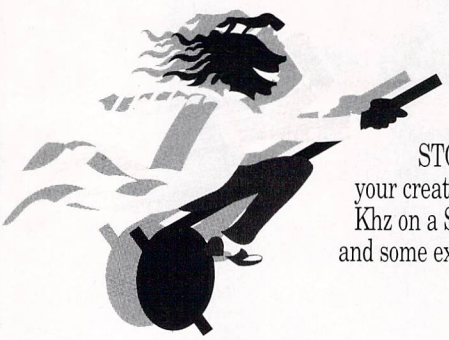
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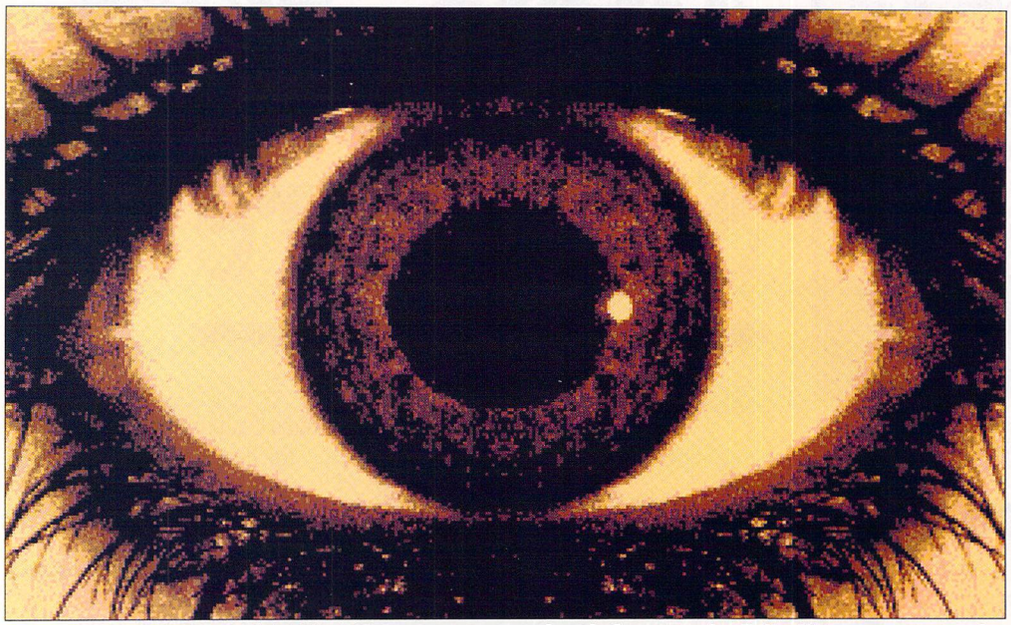


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● Chris Lloyd, *STF's* Cover Disk Ed but ST demo programmer long before, reveals all: the big eye was scanned from a book on photography. He cut out the right hand side as a block, reversed it and pasted it back down on the left side to make a symmetrical picture. He then cut out the iris and pasted it back on. One weird eye.



● You'd never know it, but Chris Lloyd is a bit of a closet hippie, judging by his *Big Eye* demo. It's 'cos *STOS* is so straightforward, you see – it just lets the inner being shine forth. What could it reveal about *you?* To order a copy, see page 118.

Retinal burn



First hypnotise yourself watching our Cover Disk demo, then read Chris Lloyd's step-by-step explanation of how he put it all together. After that, just lie down in a dark room for an hour or so and all will be revealed to you

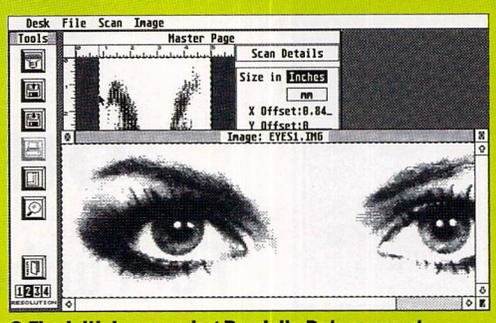
After playing games on my ST for a few months, I took a look at Public Domain software and came across demos. There are hundreds of these programs available from PD libraries for next to nothing, designed to show off the abilities of the ST. My appetite for programming was whetted and I thought I'd have a go. Most of them seemed to feature similar sorts of stuff – long scrolling text, sine wave wobbling, parallax scrolling and bouncing 3D balls. I wanted to produce something a little different. The most important ingredients for a good demo are imagination and effort. You can always learn the programming side of things – it's easier than you might think to put together your own piece of ST magic.

On the Cover Disk you'll find a short version of the demo *Bigeye*, along with the *STOS Basic* source code. I chose *STOS* because of its simple and powerful graphics functions. I didn't want to get bogged down with all those impenetrable assembly code commands. Since my programming wasn't yet up to much, I decided to keep it simple and concentrate on the finished images. There's nothing more frustrating than a program which refuses to do what you want.

I was inspired by a '60s film in which some James Bond-type bloke was brain-washed by watch-

A GOOD COLOUR BITMAPPED IMAGE IS WORTH 1,000

There's one thing that spoils a graphics demo and that's shabby pictures, so this is where most of the hard work is. Digitised images are an easy way to get impressive graphics without having to draw anything. Images were lifted from the Sunday magazines or library books on photography and scanned with a hand-scanner. I used the Daatascan from Pandaal (£129.95 ☎ 0234 855666). You need patience to get the scan straight and the contrast correct. Each one was then converted to a quarter screen eight colour picture using *Canvas* (which just happens to be yours on this issue's special second Cover Disk!). I used two palettes for the main pictures and four for the background. Each one was added to the code as a gosub (see page 107), so changing colours is easy.



● The initial scan using Pandal's Dataascan at 200dpi. Since the images are going to be converted to colour, it's best to set the scanner to produce a dithered image to give a better spread of colours.



● *Imagemod* is a handy little program (included with the scanner) which converts a bit-mapped monochrome scan to a colour low resolution picture using dithering techniques.

ing a sequence of rapidly flashing images. This appealed to me and I set about writing a program to display sequences of digitised graphics and shifting colours on my ST.



Since the pictures were to be displayed after each other rapidly, they had to be held uncompressed in the ST's memory. Since each full screen image is 32K and I wanted at least 30 images, I had to compromise somewhere. The easiest way was to cut each picture down to a quarter of a screen and display each one in the centre of the screen over a patterned background. This way you can store four images in 32K.

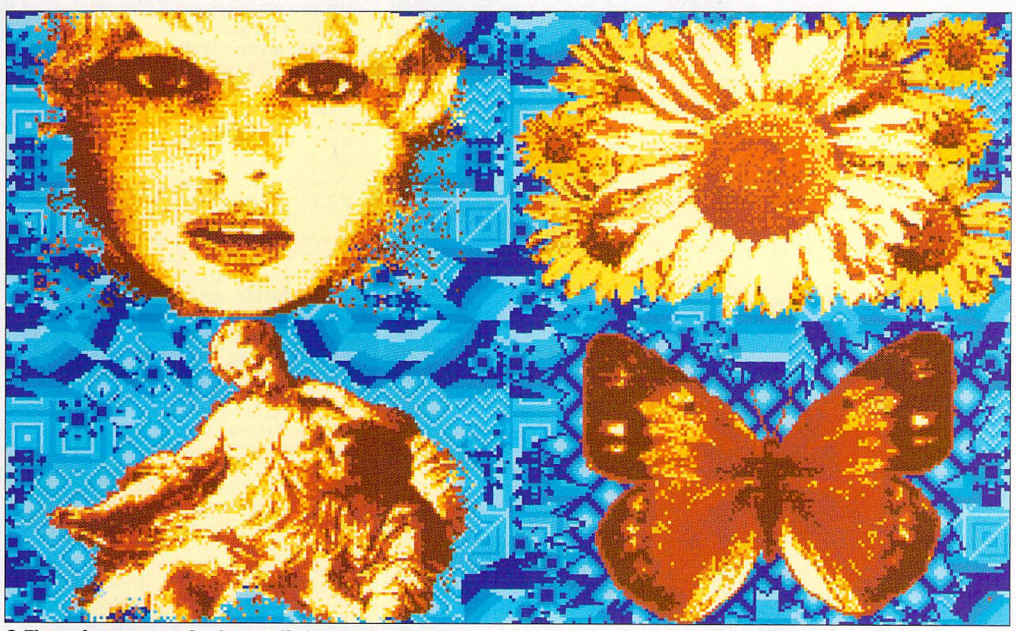
It's easier than you might think to put together your own piece of ST magic – you can always learn the programming side of things.

The background pattern was to be colour-cycled using the *STOS* `shift` command to add interest. I cut the palette in half and the last seven colours were saved to use for the background. To give the images impact, I divided them into categories – you, love, hate, life and God. The final demo ended up 667K long, so the Cover Disk version had to be shortened.

Each picture is copied to a logical screen – an area of memory reserved to store a screen image without actually displaying it – before using the `screen swap` command to display the images and the `wait vbl` command to synchronise everything. Even the slightest flicker becomes noticeable when the pictures are shown so rapidly, so some system like this was necessary. (See box, page 109.)

I came across a lovely close-up photograph of a human eye which made a good introduction to the demo. Some basic drawing commands added a pattern over the iris. The palette is then changed to a rainbow and shifted while the background screen is blended in. The *STOS* `appear` command enables you to merge pictures together, along with shifting colours. This gives a lovely effect because the pictures and colours bleed together.

The main display routines are called as gosubs. Gosubs are sections of code that can be reused any number of times at any point, hence the name – it's short for "go to subroutine." This makes changing the sequence of the demo much easier – all you have to change is the order the gosubs are called in. It also saves lots of repetitive code. I used a variable within



● These images are for lurve, dig? The ability of *Canvas* to selectively swap and replace colours under the block menu was useful when editing the final pictures. Each screen took a few hours to produce. I designed a set of fill patterns to use as a backdrop for the images. Psychoactive graphics rule, okay?

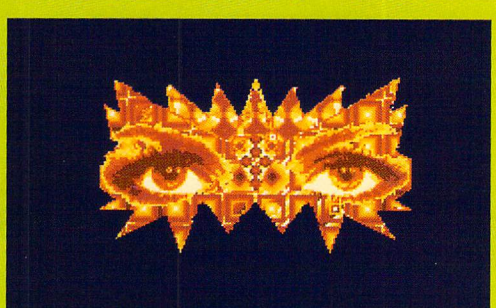
SOURCE OF THE MATTER

The full source code is on the Cover Disk, so if you have a copy of *STOS* you can have a good look at how it's all put together and fiddle about with it. All the main display routines are called as gosubs. The variable "SPD" is used to set the display between each image and the speed of the scrolling. It might look a little complicated at first, but only a few basic commands are used. All the graphics are held in compressed form as external files and loaded in and decompressed into *STOS* memory banks.

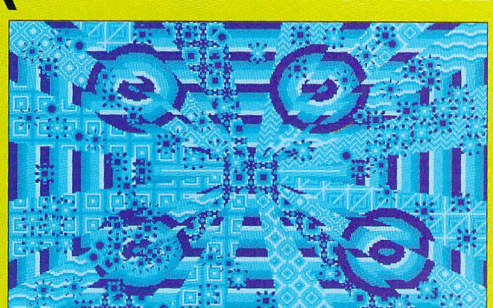
Lines	Function
20	initial screen set-up
30-100	loading and decompressing graphics
110-120	loading and initialising sample
130-170	title messages
180-290	large eye and graphics
300-530	main section of flashing graphics
540-630	all the palettes as gosubs
640	gosub to reset all screens to default
650-720	gosub to reduce screen to minatures using screen X
730-790	gosub to display "love" pictures
800-860	gosub to display "hate" pictures
870-910	gosub to display "you" pictures
920-930	gosub to scroll screen
940-1060	gosub to display all pictures

If you want to use the source code and don't have *STOS Maestro* installed, then you need to delete lines 110, 120, 300 and 520.

WORDS OF CODE (SUBJECT TO THE EXCHANGE RATE)



● I used *Canvas* to prepare the final pictures. It has excellent block and palette handling functions. Only the first eight colours are used – the rest are saved for the background, which is to be colour-cycled.



● The main background. First, I drew a series of filled boxes converging on the centre. Then I cut sections out and filled the gaps with fill patterns and finally pasted on little designs. Fab gear.



● Finally the image is pasted onto the background. These four make up the "you" section. The full version of *Big Eye* has nine such screens, giving a total of 36 different images.

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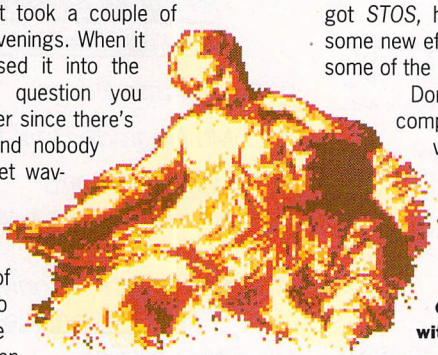


● This ugly bunch represents "hate." I picked the subject, then looked for appropriate pics to "borrow." The evil face at top left was a black and white line drawing, the others are from photos, which give a much better spread of colours when dithered, though they can suffer from a stippled look like the angry chap at the bottom.

→ the gosub to set the delay. To make the images flash faster or slower, all you need to change is the variable, rather than rewriting all the display routine.

After getting the graphics together, I sampled a few pieces of music to accompany the visuals and complete the entrancing effect. Then came the task of fine-tuning the sequence. I must have watched it hundreds of times – my eyes started going funny.

The whole project took a couple of months' work in the evenings. When it was finished, I released it into the Public Domain. The question you might ask is why bother since there's no financial reward and nobody stops you in the street waving an autograph book. For starters, it's great fun – there were only a couple of occasions I wanted to throw my ST out the window! There is tremendous satisfaction in producing something creative from scratch. Having done so, it's no good if nobody else sees it, so, off it went to a couple of Public Domain libraries. Nice to think that somewhere, someone else is making his eyes go funny as well. You never know, it could end up on the famous *ST FORMAT* Cover Disk! Mine did!



You can learn programming from books or courses, but the best way is hands-on, trying to program your own stuff and having fun doing it. If you've got *STOS*, have a go at changing the demo. Add some new effects, re-order the sequence or just nick some of the routines for yourself.

It's fun and there's tremendous satisfaction in producing something creative from scratch.

Don't be put off by the initial complexity of computer code – it's really just like learning a very simple language, with maybe a few hundred words. In no time you'll be knocking out stunning numbers. Now, get cracking, matey! ***stf***

● For more demos, contact a PD library in *FORMAT's* PD directory on page 80.
● To order a copy of *STOS*, complete with *STOS Maestro*, turn to page 118.



● The basic idea of *Big Eye* was to tap into the subconscious world of word association, flipping between love, hate and the rest, and do interesting things to your head. *(Cue evil manic laugh...)*

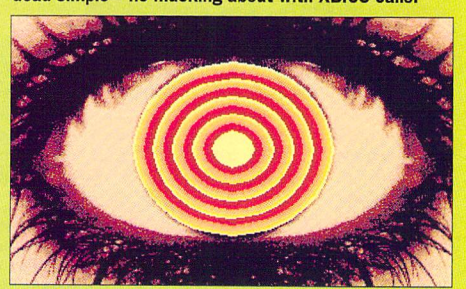
FLI-FLICKER-CKER

Any screen flickering is going to muck up your dazzling graphics effects. The best way to avoid this is to build up pictures on a logical screen in your ST's memory, and only display it when it's finished. *STOS* sends basic graphic commands to the logical screen first, which is initally set up at the same address as the physical screen, so all the graphics are drawn directly on the screen. Unfortunately, they're not drawn fast enough to avoid the dreaded flicker. We can easily change all that by defining the logical screen as another area of memory.

The series of circles drawn over the large eye at the start of the demo are suitably flicker-free. First, the logical screen is defined to be the background screen so all the drawing is out of sight. Then a circle is drawn with the colour X. The screen swap command swaps the physical screen – that's the one your ST is displaying – and your newly drawn logical screen. The screen copy copies the screen back to the logical ready for the next circle. Without it, you'd only see every other circle – try taking it out and see what happens. You could just copy the logical screen directly to the physical screen, but screen swap is slightly smoother.

```
220 logic=back : X=9 : for Y=71 to 3 step-2
230 ink X : inc X : if X>15 then X=9
240 circle 159,98,Y : screen swap : wait vbl
250 screen copy physic to logic: next Y
```

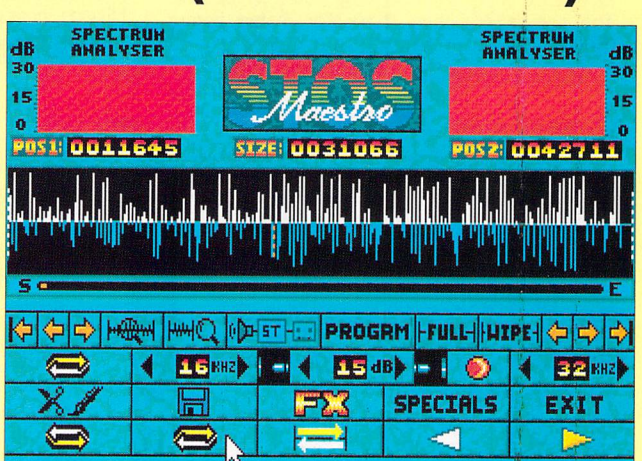
Unless the graphics routines are very fast, it's always best to draw on a logical screen and then copy it to the physical screen. *STOS* makes the whole process dead simple – no mucking about with XBIOS calls.



● Listen very carefully to the sound of my voice. Just take a deep breath, then breathe out and relax. Now say after me: I am an orange.

REVERBERATION (-ATION -ATION)

Okay, you've got the colourful graphics and smooth animations, now for the final touch – a bit of digital groove. For *STOS* to handle sampled sounds, you need *STOS Maestro* installed first. With this you can add digital sound with only a line or two of code. The easiest way to do it is to loop a sample, so it plays constantly. The tricky part is getting a smooth edit point so you can't tell it's only a short sample. Synth or house music is the easiest to use because it's so monotonous. The demo lent itself to a hypnotic drumming pattern so, out with the record collection and the sampler. I sampled at 32MHz, then packed it down to 16MHz to get better quality sound. To get a usable loop you need at least 30K at 16MHz. The original demo has about 160K of samples, including a manic laugh and a deep voice saying "bi-bi-big eye."



● The *STOS Maestro* editor with an old Steppenwolf drum break loaded in. The play function is set to loop and the start and end points are slowly moved about until you get a seamless junction and the sample sounds like one long piece of music.

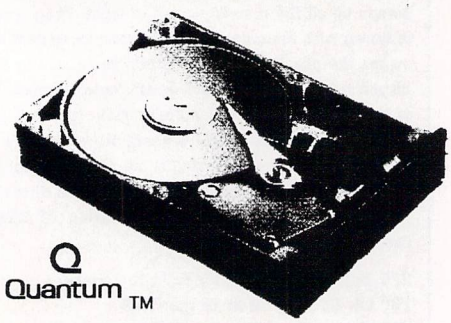
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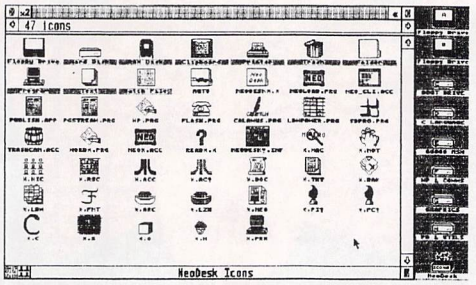
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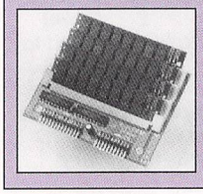


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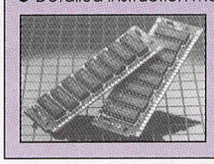
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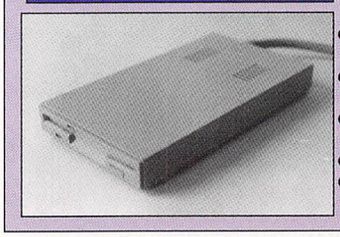
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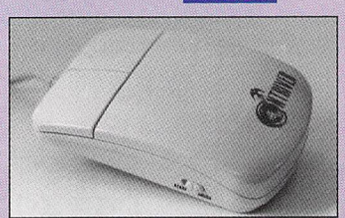


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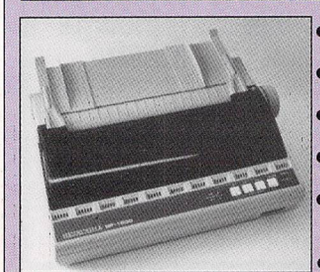


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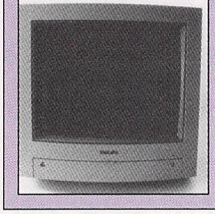


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STOS surgery

Screen addresses muddled again? Need a hand untangling your spaghetti code? Visit our surgery – two-year-old copies of *Country Life* not included

STOS is a powerful yet simple version of BASIC which has sold over 120,000 copies on the ST. Ideally suited to producing games, it has many specialist graphics commands. No need to delve into system calls to use interrupt-driven sprites and sound – *STOS* sets it all up for you. But like all powerful packages, it has its own little quirks. *STOS* surgery is here to point you in the right direction. If you use *STOS* and can think of any hints or tips you reckon we ought to know about, just put them on a postcard or sealed down envelope and send it along to us.

UPDATE IT

There was some panic when early versions of *STOS* were found to be incompatible with the STE. The latest version of *STOS* (2.6) is now fully compatible with all TOS versions up to the latest 1.62. If you want to distribute your programming tour de force in the Public Domain, then you must use the latest version. Mike Goodman of Goodmans PDL has offered a free update service. Just send a blank disk and an SAE to Goodmans PDL, 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, Staffs ST3 1SW. That's rather nice of him, isn't it? He also handles the official *STOS* Public Domain and Shareware library.

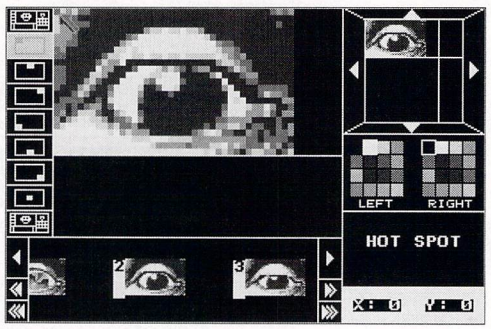
SCROLL ME UP

The `scroll` command sounds very powerful but can lead to all sorts of problems getting everything moving smoothly. Below is a very simple but smooth screen scroller. It builds up the pic out of sight on a logical screen, before copying it to the actual screen. Type in the listing (the ↵ symbol means no line return yet) and load in a picture into bank ten. Run it and enter a number – how many pixels the picture scrolls. It runs at about 16 frames a second. If you do everything directly on the physical screen it speeds up to about 25.

```
10  key off : click off : flash off : hide ↵
    on : curs off : mode 0
30  get palette (10) : screen copy 10 to ↵
    back
40  input SPD
50  logic=back
60  def scroll 1,0,0 to 320,200,0,-SPD
70  for X=0 to 199 step SPD : scroll 1
80  screen copy 10,0,X,320,X+SPD to ↵
    logic,0,200-SPD
90  screen copy logic to physic : wait ↵
    vbl : next X
100 default logic=logic
```

STE EXTENSION

One of the beauties of *STOS* is that it's expandable – extra commands and functions can be added as extensions. *STOS* comes with the screen compacter as standard. Mandarin also produce *STOS Maestro*, which handles sampled sounds. STE owners have been a bit left out – until now! *ST FORMAT* have got hold of two extensions which enable you to get at the extra colours, hardware scrolling, DMA chip and the blitter. Look out for the full interpreter and compiler versions on the front of next month's wot-a-scorcher *ST FORMAT*. (Turn to page 142 for details of how to guarantee your copy.)



● With the *STOS* sprite editor, you can position the hot spot – the point the sprite coordinates are set from – anywhere within the sprite by using the presets on the left or clicking on the sprite. As default, the hot spot is at the top left corner.

SCRAMBLED SCREENS

STOS uses three separate screens – physical, logical and back. It's easy to lose track of what's being drawn on which screen and which one is being displayed. The physical screen is the one you can actually see. The logical screen is where your ST sends all the graphics and text. As default, *STOS* sets up the physical and logical screen at the same address, so everything you draw is immediately visible. In order to get rid of synchronisation problems, you can define the logical screen as the background screen or one of the memory banks, and copy swap it to the physical screen when all the drawing is finished. The background screen is a copy of the physical screen without any of the sprites on it. It's used to fill in areas of screen that sprites have moved over. Otherwise, they'd leave black trails behind them.

SHIFTY COLOURS

The manual says that the `shift` command cycles the palette through all 512 colours. Don't believe it. It actually cycles the palette in the same way as art packages do. That is, each colour runs through the 16 possible ones from your current palette. You can set the speed and starting colour. For really complex colour cycling, the `flash` command is more flexible.

SPEED IT UP

If your program doesn't use sprites and is in need of a boost, try the `autoback off` command. *STOS* automatically copies graphics to the background screen, which is used as the background for the sprites. All this takes time. If you have no sprites bouncing around – and that includes the mouse – or if you're using a screen-flipping routine with a logical screen, then turning off `autoback` speeds everything up. The `CLS` or the `mode` command turns `autoback` on again.

TOO TIGHT

Running out of memory? Always boot *STOS* from an AUTO folder, which bypasses GEM and saves you about 32K. Still not enough? If you don't need the compacter or want to use floating point numbers, you could rename the COMPACT.EXA and FLOAT.BIN to something else so *STOS* doesn't load them – saving another 18K. Don't do this to your master disks – always use a backup copy. If your compiled programs are running out of room, then use the compiler options to save you a few K. You can select which fonts and mouse pointers are loaded – one for each resolution. So, if you're only working in low, you can save space by deselecting the medium and high resolution fonts and mouse pointers. Reduce the window buffer to 8K and allow 4K for each window used.

HOT SPOTS

Sprites must be put on the screen with the X position as a multiple of 16. A bit limiting, but easily cured. Simply use the sprite editor to move the hot spot. The X,Y coordinates you use to position the sprite give the point where the hot spot is positioned. For some reason, *STOS* doesn't like putting sprites on the screen when the X coordinate is zero. You can use the same trick of moving the hot spot to fix this.

STOS OR NOT STOS

"My language is better than yours." Computer language snobs, eh? *STOS* has a few giveaways that you might like to avoid. The standard mouse pointer has to go – it's pretty awful anyway. Draw your own sprite and use the `change mouse` command. The "appear" function seems to turn up in every *STOS* program and gets a bit boring after a while. Why not write your own screen-appearing routines? The standard fonts are rather plain. You can use other fonts by opening a window, which isn't always very useful. If you save your new font to the *STOS* folder – or COMPILER folder if you have it – with the appropriate name, *STOS* uses this as the defaults. That leaves you with the GEM-like functions. The menu bar, window borders and file selector instantly identify *STOS*. With a little bit of effort you could tweak these and sit back with a smug smile as people try and guess if it's assembly or C.

BOUNDER

The manual says you need to place graphics on a 16 pixel boundary when using the `screen copy` command. You can, however, cut them from anywhere as long as the graphic is a multiple of 16 pixels long – something the manual forgets to mention! ***stf***

HOW ABOUT YOU?

To order *STOS* – complete with compiler, *Maestro* sound package and over 600 sprites – at a saving of *£42*, turn to page 118. Or do you already use *STOS*? Got some hot tips to share with the world? Perhaps you need a perplexing programming predicament sorted? Let us know about it! That way, you can share your tip with well over 70,000 other ST enthusiasts *and* be in the running for our monthly prize of £50. Write to: STOS Surgery, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

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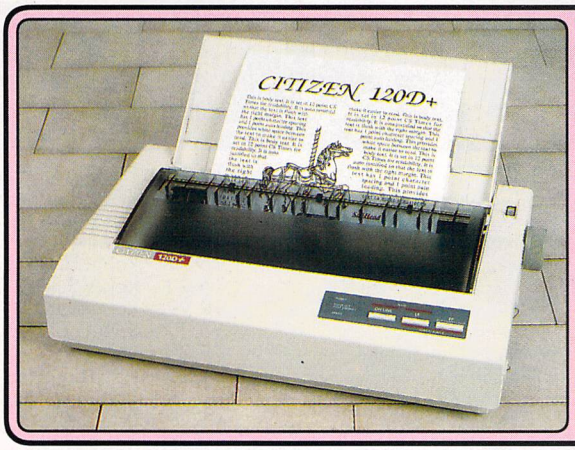
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144 CPS **80** COLUMN

- *Citizen 120D+ - 9 pin - 80 column*
- *144cps Draft, 30cps NLQ*
- *4K Printer Buffer + 2 Fonts*
- *Parallel Interface as Standard*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
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9 PIN PRINTERS



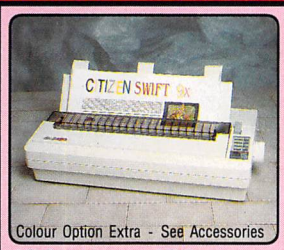
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192 CPS **80** COLUMN

- *Citizen Swift 9 - 9 pin - 80 column*
- *192cps Draft, 48cps NLQ*
- *8K Printer Buffer + 3 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

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COLOUR KIT: £38
STARTER KIT: £25
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Colour Option Extra - See Accessories

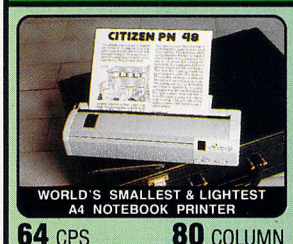
192 CPS **136** COLUMN

- *Citizen Swift 9x - 9 pin - 136 column*
- *192cps Draft, 48cps NLQ*
- *8K Printer Buffer + 3 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *A3 landscape printing*
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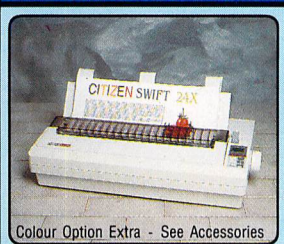
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24 PIN PRINTER



Colour Option Extra - See Accessories

192 CPS **136** COLUMN

- *Citizen Swift 24x - 24 pin - 136 column*
- *192cps Draft, 64cps LQ*
- *8K Printer Buffer + 4 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson, IBM and NEC P6 Emulation*
- *A3 landscape printing - FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

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SAVING: £165
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24 PIN PRINTERS



FREE! COLOUR KIT

216 CPS **80** COLUMN

- *Citizen Swift 24e - 24 pin - 80 column*
- *216cps Draft, 72cps LQ*
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- *Parallel Interface*
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Colour Option Extra - See Accessories

192 CPS **80** COLUMN

- *Citizen 224 - 24 pin - 80 column*
- *192cps Draft, 64cps LQ*
- *8K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
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STARTER KIT: £25
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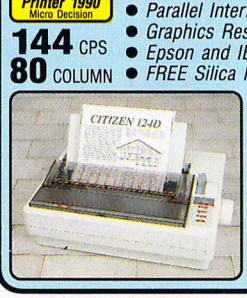
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24 PIN PRINTER

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- *8K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Res: 360×360dpi*
- *Epson and IBM Emulation*
- *FREE Silica Printer Starter Kit*



RRP: £249
STARTER KIT: £25
TOTAL RRP: £274
SAVING: £105
SILICA PRICE: £169

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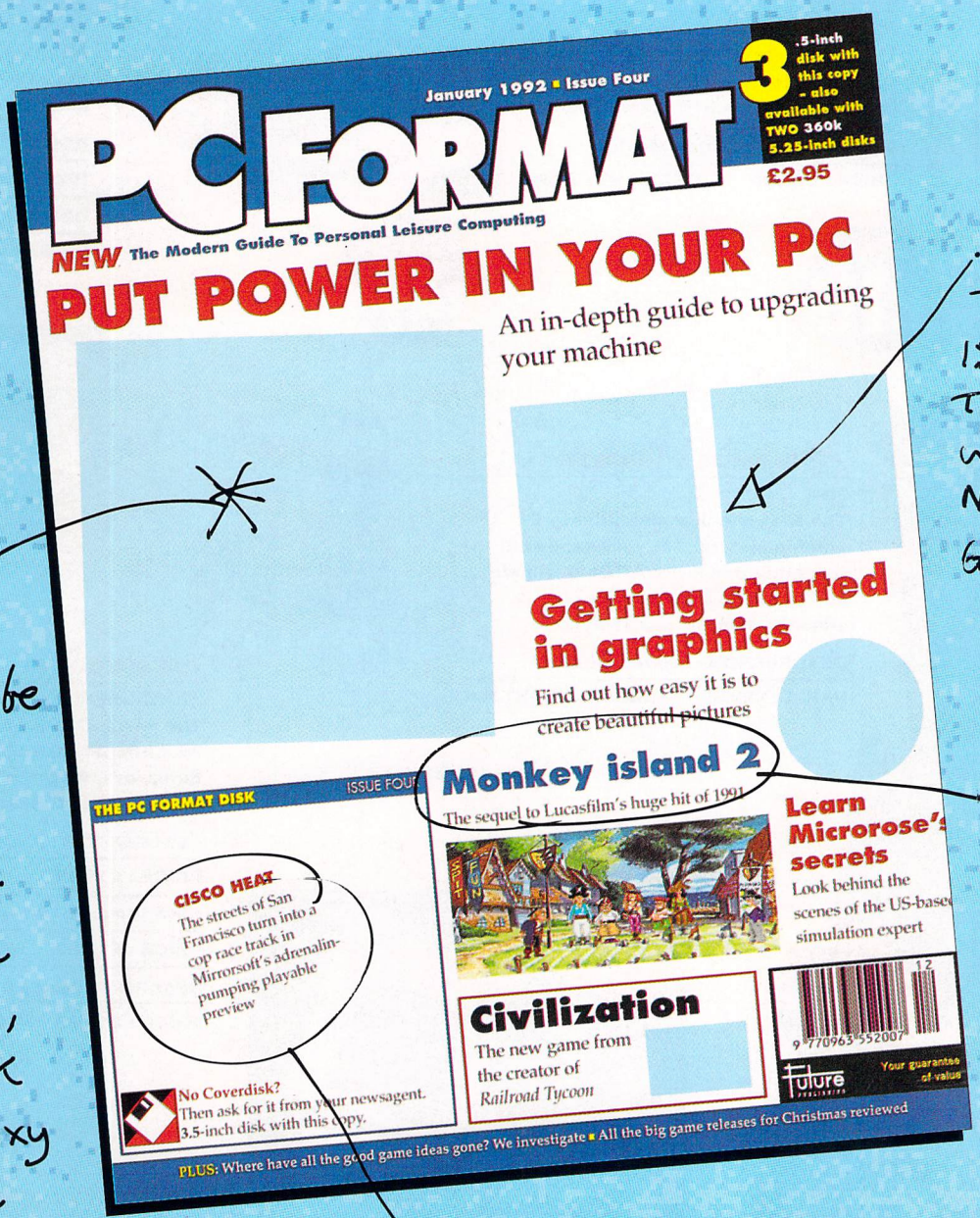
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Martin.
We will be talking about all sorts of hardware for this, so think of a sexy shot we can use
Tim.

KARL.
THIS PIECE IS AIMED AT THE BEGINNER WHO KNOWS NOTHING ABOUT GRAPHICS.
BOB.

RICHARD
I REALLY HOPE THIS IS FINISHED ON TIME, BECAUSE THIS IS THE SECOND TIME I'VE MENTIONED IT HERE. BOB.

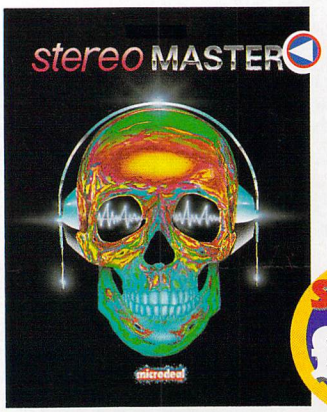
Bob. It's not complicated or strategic, but it's sure a lot of fun to drive people will love it — Jason.

■ **For the finished version of all this and more, make sure you get issue 4 of *PC Format* on December 19**

(Contents subject to change without notice, because you never know when something is going to go horribly wrong.)

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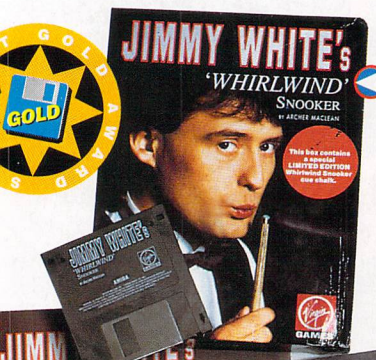
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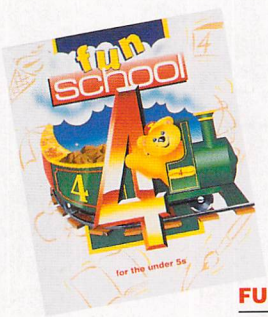
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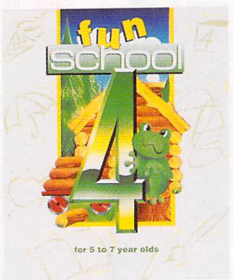
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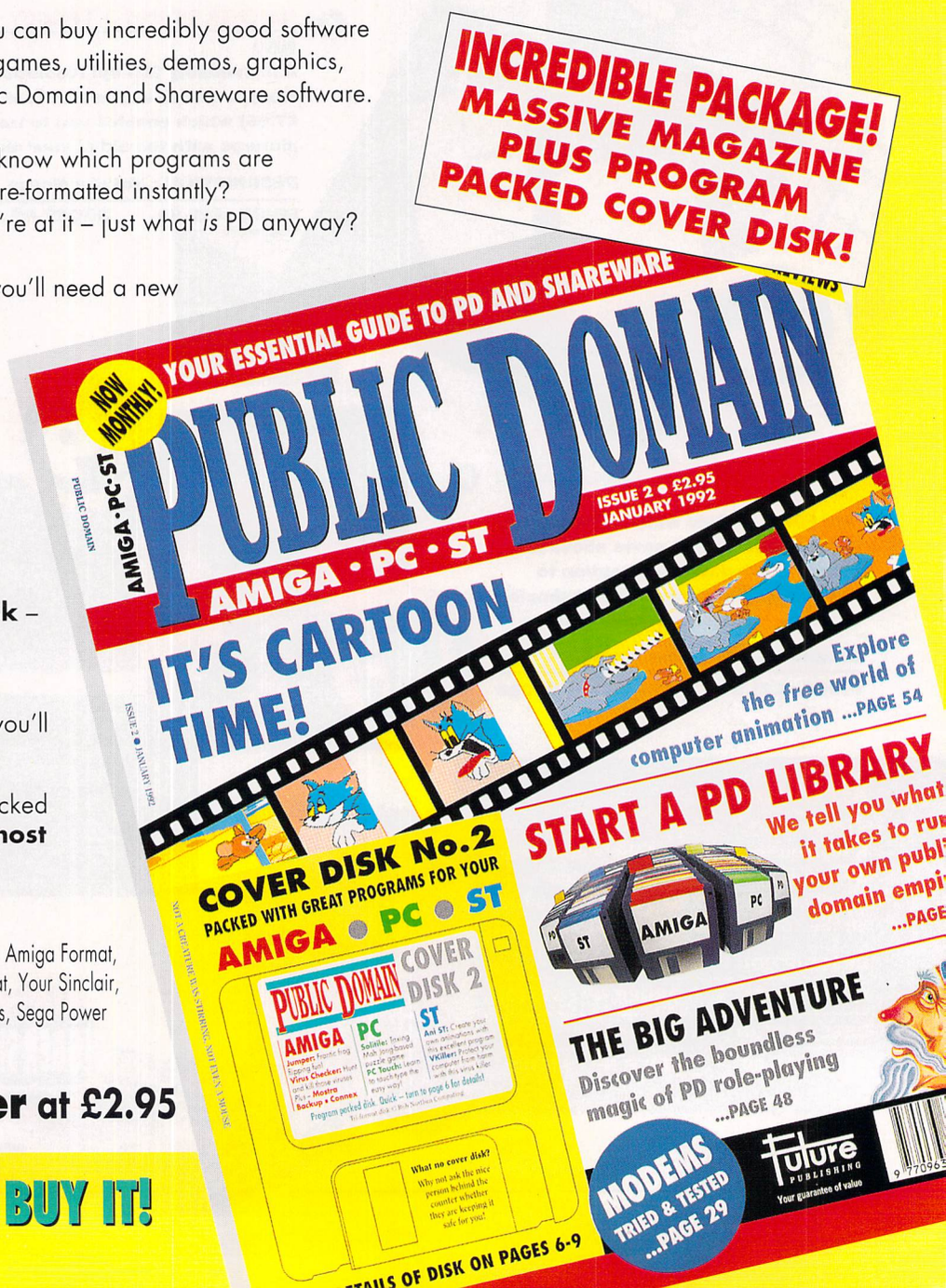
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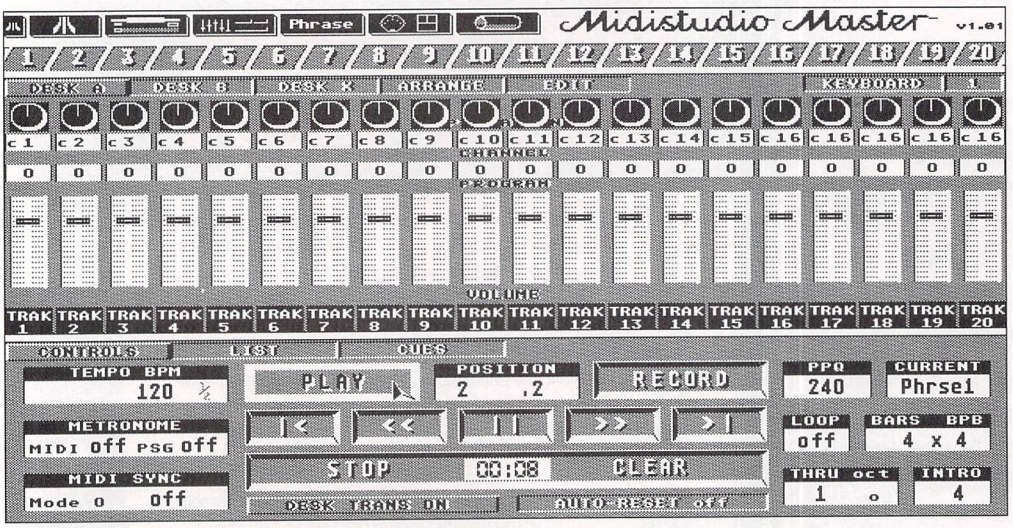


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● ***MIDIstudio Master's*** **main desk is set up like a real mixing desk. Each track has its own stereo pan-pot, instrument and MIDI channel. Below are the main transport controls for rewinding and playing the song.**

MIDIstudio Master

Take a quick glance at the range of MIDI programs and you'd think that everything's sewn up by C-Lab and Steinberg. But that hasn't deterred Ladbroke Computing – they think their sequencing program, *MIDIstudio Master,* could give the established names a run for their money. Neil Jackson finds out what sort of chance they've got

MIDIstudio Master

MACHINE: ALL STs

PRICE: £99.99

FROM: LADBROKE COMPUTING INTERNATIONAL

CONTACT: 0772 203166

MIDIstudio Master is pitched as a professional quality composer and sequencer – as useful to the lone, brainstorming musician as it would be to the studio engineer with all the expensive kit. It's certainly flexible – it works with all types of MIDI instrument, in medium and high resolutions – but this alone won't tear musicians away from the well-trodden C-Lab and Steinberg paths. To be a success, it needs to be dead simple to use, as quick as lightning to work with and perfect in performance too.

First impressions of *MIDIstudio Master* are that it's not particularly simple – there is a plethora of buttons, displays and numbers to cope with. It's dongle-protected too, like the C-Lab programs, using an "electronic key" which must be plugged into your ST's cartridge port. However, things aren't as complex as they initially seem. A scan of the first screen shows functions and controls that you'd find on any sequencer, regardless of its origins. Play, record, rewind, stop – all the basics are immediately obvious. You can also customize the startup, so that *MIDIstudio Master* loads up with your favourite settings for instrument names and volume levels already installed as defaults.

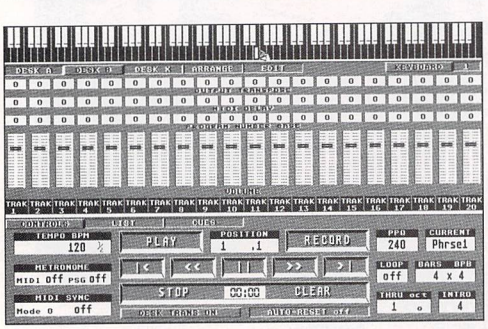
MIDIstudio Master has a special way of displaying its diverse bits of information and giving you access to the different controls you need to use. The top two-thirds of the screen is used to display either the main mixing desk screen, the music-arranging screen or the phrase-editing screen at the touch of a button. Below these displays, three more buttons determine whether the main control panel, the phrase list or the cuing controls are displayed. You can chop and change screens as you wish (though doing so with the music playing causes timing hiccups) and still have total control over the playback and recording.

The main desk screen contains the 20 tracks which *MIDIstudio Master* uses to store the tunes played by each different instrument. The tracks are arranged vertically like a studio mixing desk and they can even be displayed with pan-pots at the top. The sliders vary the volume of each synth-sound and the pan-pots shift the sounds' positions in the stereo-field – assuming your MIDI keyboard is capable of producing stereo sounds.

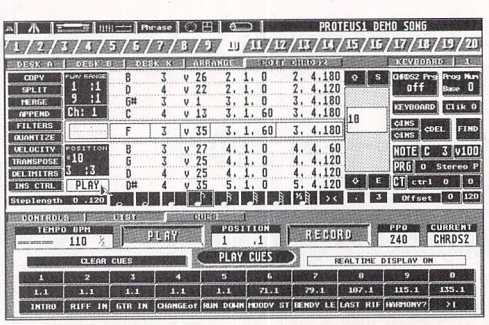
The desk screen is also the place where you can change the number of the synth-sound assigned to each track and the MIDI channel number that its notes are sent through. To do this you use simple right or left mouse button clicks to alter the numbers displayed. Many of *Midistudio Master's* other controls are similarly obvious and this is commendable – It *is* very quick and simple to operate, despite the initially brain-dazzling displays.

MIDIstudio Master's Arrange screen is fundamental to its operation but is rather different to many other sequencers. Instead of using the common track-by-track, bar-by-bar method of storing the notes you play, *MIDIstudio Master* stores only the musical phrases you play. These can later be assigned to any track, instrument or channel you like – you can even create copies of phrases for different instruments to make choruses. The timing is handled automatically and any phrase can be as many beats, bars or time-clicks as you desire.

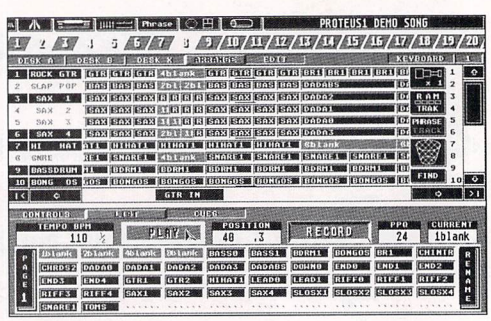
Each phrase is represented by a small block on the Arrange screen. You can pick these up with the mouse and reposition them anywhere in the song, like Lego. Each phrase butts up to its neighbours, so you don't even need to be precise in positioning –



● **There's a second desk which contains switches for transposing note pitches and adding MIDI-delay. The top of the screen shows the pianola-keyboard which shows the notes being played on each MIDI channel.**



● **Editing individual musical phrases is fairly straightforward, but the lack of a graphic layout makes it a bit of a numbers game. The lower panel shows the cue-sheet which you can use to position the playback marker very quickly.**



● **Arranging musical phrases into a song is child's play using Lego-style blocks which can be repositioned very quickly. The list at the bottom shows the individual phrases you can connect together.**

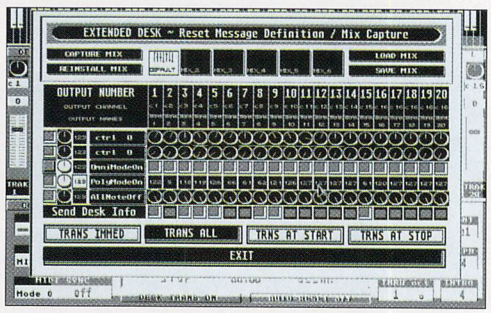
there are special empty phrases which you can use to make pauses where necessary. As well as being easy to build with, this system of phrase-storing is more memory-efficient than conventional track-storing, because repeated phrases are only stored once. It makes a lot of sense on a 520ST, that's for sure.

Arranging your neat and punchy phrases together is one thing, but you still need to get the phrases right to start with. This is where the Phrase Edit screen comes in. Here you find a long list of all the notes – or rather "MIDI events" – which occur in the current phrase. The events are displayed vertically, a tiny bit like a GEM fileselector window. Each MIDI event consists of a note value and length information you can alter – again by simply clicking the mouse buttons. There are numerous features you can apply to the notes in a phrase – for example: transposing, filtering control bytes, merging with a different phrase – and there's also a step-time entry mode to insert individual notes. The text-only display does have one drawback though. There isn't any "feel" for the music because there are no staves or other graphic methods of showing the notes rising and falling.

MIDIstudio Master does have many other features and uses some innovative methods to show the song you're creating. You can display a mock piano keyboard across the top of the screen and assign this to a MIDI channel. You can then see the notes being played, rather like you would on a pianola. Another neat trick is the use of modules which you can access through a software "pipeline." This enables the system to be expanded at a later date, with modules to handle system exclusive commands, palette changes and a host of other utilities which you'd ordinarily need to exit the main program to gain access to.

MIDIstudio Master has the simplicity you need for quick music-composing, and it's flexible. The program's only visible (or rather, audible) fault occurs when track mute buttons and some other functions are engaged while the music is playing. It pauses momentarily, which is annoying, especially since packages like *Trackman 2* have cured this. Another slight hiccup occurs occasionally when you stop the music mid-flow. Notes can get "left on" causing continuous tones to pour out of your synth, but this may only be a problem on certain synthesizers.

Overall, *MIDIstudio Master* is a powerful program with a great future. It has the sophistication to rival the big names but its features are simple and intuitive enough to make it attractive to all musicians. It's priced low enough to make them think hard about following the expensive but well-trodden routes to MIDI sequencing. Watch out C-Lab and Steinberg! – *MIDIstudio Master* is hard at your heels, and gaining. ***stf***



● The external control desk is used to send MIDI control data to your synthesizer. You can use it to alter the overall mix of the song, and then store the mix changes for later use.



● A neat extra is the Program and Controller Chart, which can display all the presets on your synth in a comprehensive list. You need to write your own for your synth, but once done, it stops you getting lost.

MIDISTUDIO MASTER

£99.99 Ladbroke Computing International
☎ 0772 203166

FEATURES: 95%
A powerful and comprehensive sequencer with some neat displays to help you find you way around more quickly

SPEED: 95%
Good results can be knocked up in a remarkably short time, thanks to the Lego-like song-building process

EASE OF USE: 85%
Everything is intuitive and clearly labelled, too. You can be "at home" with it in less than an hour

RESULTS: 89%
Generally very good, but a few timing problems and hanging notes mar an otherwise perfect performance

THE COMPETITION
C-Lab *Creator 3.1* (£330, Sound Technology ☎ 0462 480000), *Cubeat* (£295) and *Cubase* (£575, Evenlode Soundworks ☎ 0993 898484), *Trackman 2* (£99.95 Hollis Research ☎ 0481 728286)

STF RATING: 91%
A good bargain overall, but it's still got its work cut out to loosen the C-Lab stranglehold on the MIDI music market

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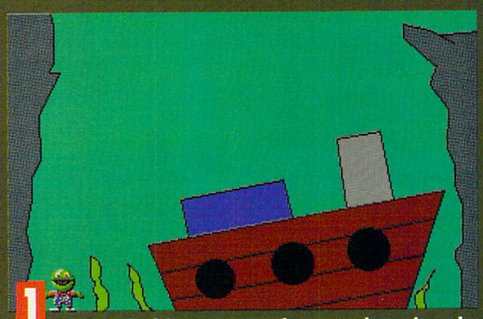
The kandy koloured tangerine flake streamline picture show

The colours, the expression, the symbolism! I don't know though, the Desktop gets a bit boring after a while. Mmmm, could always use an art package, I suppose. Chris Lloyd examines this month's exhibits

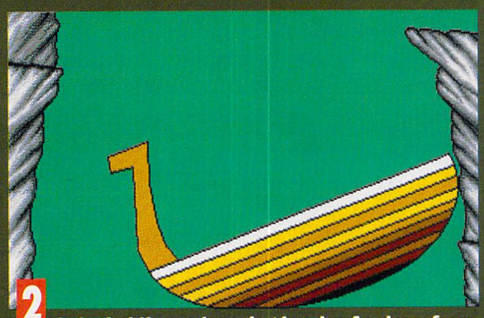
BACKGROUND BACKGROUND

It's all very well producing full screen pictures, but often a professional graphic artist finds himself drawing graphics to fit in with a game. Jon Hare from Sensible Software was given the task of putting together the background screens for *Wizkid*. In an exclusive for *ST FORMAT*, he talks us through the stages of creation.

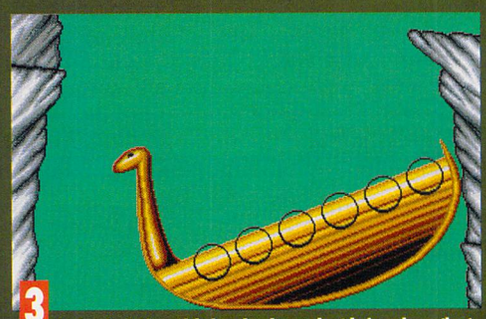
"There is a wealth of difference between loading



1 I started with a very rough screen layout, making sure everything would be a nice scale against the the main sprite, which has already been created. Since the palettes for the sprites have previously been defined, it can be frustrating having to work within them. The rocks are used elsewhere in the game and give a theme to the screens.



2 I shaded the rocks using bands of colour, from dark to light. By using irregular shapes and thicknesses of bands, a natural looking form is built up. I decided that a Viking ship would be nice. I drew a rough outline until I was happy with it. Then I added rough colour bands to help me with the shading later on.



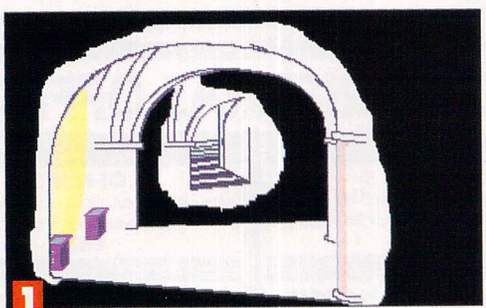
3 I shaded the ship's planks using interchanging bands of progressively lightening colour. Then I gave a rough form to the ship's head and pencilled in where the shields were to be. I work ad hoc rather than planning from the start, finishing one thing entirely before moving on. Thus it's easier to improvise and draw on inspiration at the time.

PRIZE £25 WINNER — UNDERNEATH THE ARCHES

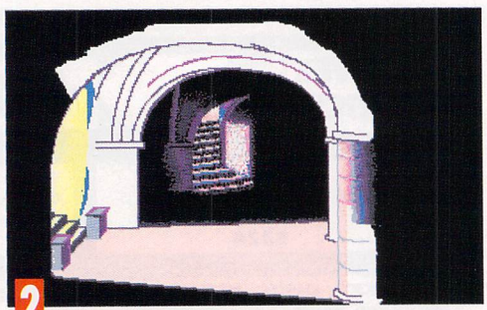
This atmospheric and shadowy picture is the work of **Myles Jeffery** from **Kent.** He got his ST for his 15th birthday and used *Degas Elite* and *Deluxe Paint* to produce a whole disk full of dragons and middle earth pictures. This number took about seven hours to draw. We'll let him explain.

"I saw this picture on the inside cover of a book. It caught my eye straight away because of its simple effectiveness. I knew it would look great on my ST, so I set about drawing it immediately.

● *Deluxe Paint* is £49.99 from Electronic Arts ☎ 0753 549442



1 I began by outlining all the arches, pillars and other prominent features. I drew the outlines using Freehand Draw at times six magnification, ensuring everything fitted together. After checking the proportions were correct – if they aren't it could ruin the effect – I blanked out the parts of the picture that were dark in the original. I filled in the bright light shining behind the steps – it gave me an idea of how dark the other colours should be.

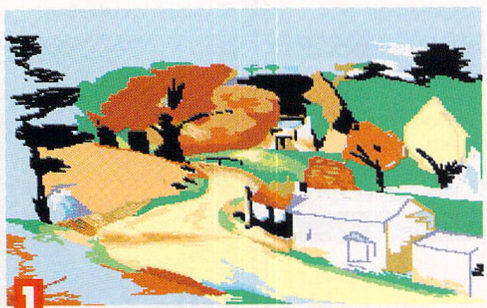


2 Here, I coloured in the steps that lead down from the back of the picture, using a wide range of colours to give a nice texture. This is apparent on the wall next to the steps, where I tried to mimic daylight as opposed to the artificial light below. The top half of the right most pillar has also been filled in – going from the bright pink colour on its left side to a dark purple/blue on the right where the light cannot reach it.

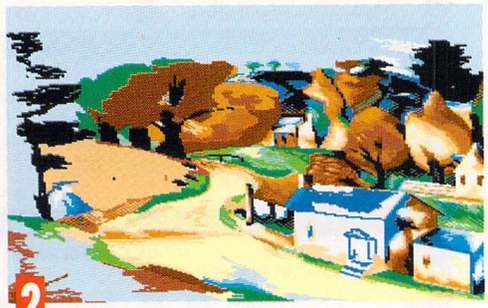
INSPIRED IMPRESSIONIST IMAGERY

Ian Martin hopes to bring some culture to the Gallery pages with this impressionist piece taken from a painting by Jan Matulka. He used *Degas Elite*, which, although rather an old art program, is still a very popular choice with Gallery artists.

● *Degas Elite* is £24.99 from Electronic Arts ☎ 0753 49442



1 "This is where it begins. Basically, I scratched out an outline and added in a little detail, making note of what's already wrong! I save it and have some coffee.



2 I decided the palette needed a good work out so I used more appropriate tones. I began work on the right hand side, trying to get it looking finished. Time for more coffee.

Take a gander at these lovingly crafted screens. Reckon you're up to it? Go on, have a go and send them in to us, so we can all have a laugh – oops, sorry! I mean, appreciate the artistic quality and pick up a few tips. What we need is the picture saved at various stages and an explanation of how you created your tour de force, including details of which package you used and any of your individual quirks and hints. You could even win the prize of £25! Whack it all on a virus-free disk and send it to us at Gallery, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. Pictures of Porches will be eaten after being tortured severely. ***stf***

JARGON BUSTERS

ANTI-ALIASING: where an inter mediate colour is used to soften the boundary between two contrasting colours

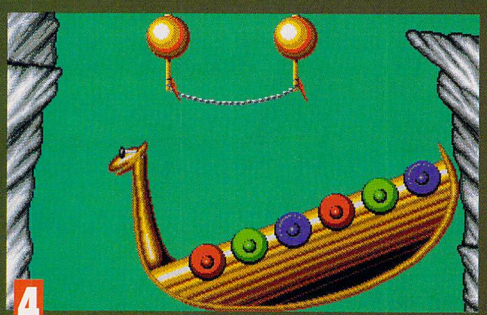
BRUSH: a shape you draw with on screen.

JAGGIES: common term for lines displaying aliasing

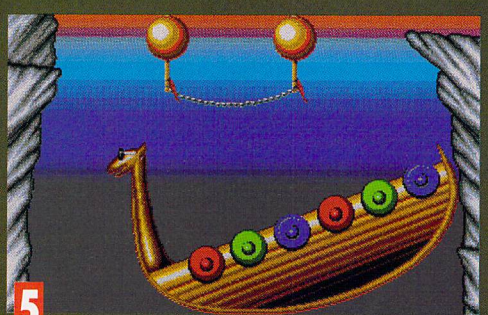
PALETTE SWITCHING: technique used to give more than the "legal" number of colours on screen at once.

STIPPLING: creating the illusion of a third colour on your ST's screen by having two colours in a chequerboard-style pattern. And it's also a town near Peckham.

screens and functional in-game graphics. Often you have to struggle with the limitations imposed by the game. There were several points to achieve – the screen had to be cartoony, fun and very colourful, but also not overpower the tiles and sprites, which had to stand out. Any features of the background contributing to gameplay must be obvious, but not too many to overpower the main sprites. The screen should fit in with the general atmosphere of the game. This is for a hidden level. It has to be lighthearted and quirky. I thought a shipwreck would be a nice theme.



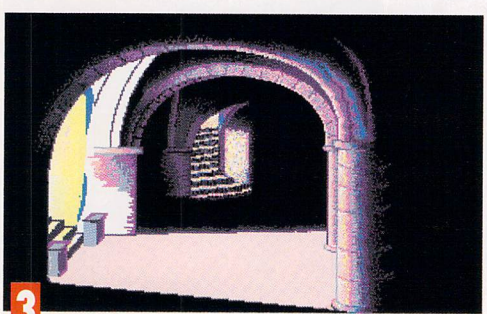
4 The screen has to be kept relatively sparse since it will be continually overlaid by sprites during the game. I added some buoys to define the sea/sky border. The water surface and buoys would add to the gameplay, with extra platforms and features. The buoys were coloured using a similar technique to the rocks, but with smoother bands.



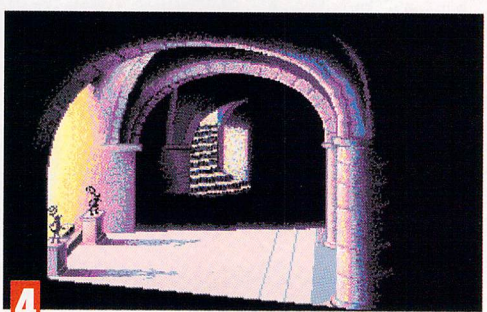
5 The shields were colour-coded for gameplay and the ship's head touched up, finishing the basic screen. The game has a colour graded background determined early in development to give a colourful backdrop – it's software-generated using palette switching. I preferred a red sunset for the sky since the border with the water is made clearer.



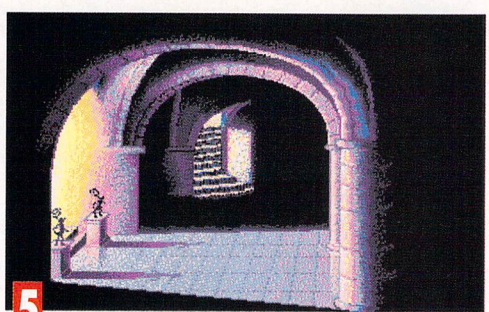
6 The ship is very much the centrepiece, which is what I wanted. Remember that, in art as in music, the spaces you leave are as important as the detailed bits within. The screen is now ready to be used within the game. The tiles and sprites from the game are added. All of a sudden, the screen is full and alive – the desired effect."



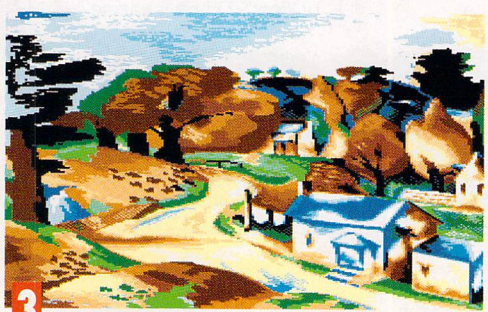
3 This stage is quite advanced because I have completed the pillar and the arches that span overhead. The arches get darker as they disappear out of range of the light. The colours work especially well here as they involve some deep blues up to bright pinks that keep the picture alive. I blended the colours a lot throughout the picture, giving a nice mixture of tones.



4 The bright light has been fully coloured and blended into its surroundings. The gremlins on the pedestals have been drawn, adding a new dimension to the already eerie picture. The shadows that have been cast from the gremlins stretch out upon the floor ahead of them, going from dark to a semi-dark.



5 The shiny floor has been coloured, showing the reflections of the pillar and pedestal. Note the contrast of the bright light against the sheer black at the left, and the dark shadow of the gremlins set against the floor – this uses some of the bright pinks to make it sparkle. The overall effect of the picture is quite stunning, hiding a dark personality of its own and a quiet unanswered question of what lies beyond the gremlins where the light shines from."



3 The right side now looked good, so on to the sky and left hand side, using the zoom window of *Degas* down to f5 magnification for the anti-alaising and stippling.



4 Very close to the end now – usually where it all goes wrong. Only 16 colours means loads of stippling. The greens and blues work very well together as a background.



5 At last! The finished thing. Basically, it was a lot of hard work with the zoom option and I'm pretty pleased with it. I think I'll be moving on to van Gogh next."

5 GAME PACK
DIZZY COLLECTION

TREASURE ISLAND DIZZY GALLUP NO1 BEST SELLER

FANTASY WORLD DIZZY 94% CRASH SMASH

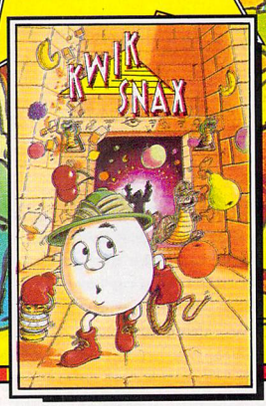
MAGICLAND DIZZY 85% AMIGA FORMAT

Out Now!
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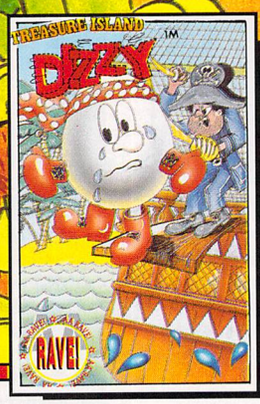
EXCALIBUR THE SWORD

Available on:
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£24.99

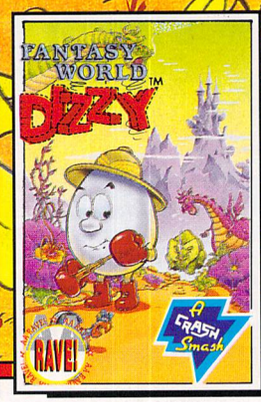
SPECTRUM, C64
AMSTRAD £9.99



"It's spookily addictive and it's fantastically presented" - Rich Pelley Future Publishing



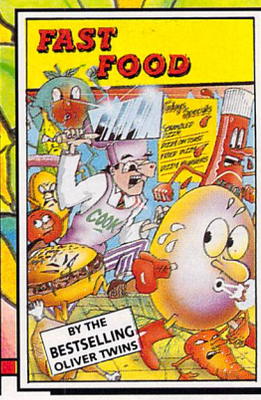
Dizzy's Treasure Island is brilliant, it's like a real cartoon with amazing gameplay!!



"Mindblowingly addictive and truly great!" - Brian Sharp Games X Magazine



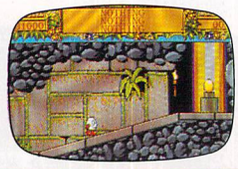
"A Sure Fire winner for the Codies. A SMASH!" Amiga Format



"Fast Food is a classic game Absolutely brilliant" ZZap Magazine











CODEMASTERS

AMIGA screen shots shown. 8-bit versions feature "DIZZY" instead of "KWIK SNAX"

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ATARI ST AND AMIGA

TREASURE ISLAND DIZZY	0898 555 092
LITTLE PUFF	0898 555 095
ROCKSTAR	0898 555 090
FANTASY WORLD DIZZY	0898 555 078
SEYMOUR IN HOLLYWOOD	0898 555 010
SPIKE IN TRANSYLVANIA	0898 555 105

HELP LINES

NEW RELEASE INFO LINE 0898 555 000 (Tells you what is being released this month)

If you can't get any further in any of these games and would like us to give hints & tips on how to solve all the puzzles just phone the numbers below. Please don't phone unless you are really stuck and make sure you get permission from the person who pays the phone bill first! Calls costs 36p per minute during off peak time and 48p per minute at all other times.

(GREAT BRITAIN ONLY)

SPECTRUM, AMSTRAD, C64

DIZZY	0898 555 093
TREASURE ISLAND DIZZY	0898 555 091
FANTASY WORLD DIZZY	0898 555 078
LITTLE PUFF	0898 555 094
ROCKSTAR	0898 555 090
MAGICLAND DIZZY	0898 555 096
SLIGHTLY MAGIC	0898 555 050
SEYMOUR IN HOLLYWOOD	0898 555 010
SPIKE IN TRANSYLVANIA	0898 555 105

Make mayhem in mono

Mono monitors are different. With their high resolution, reduced glare and rock-steady screen display, they are ideal for desktop publishing, music and all applications that demand close work or fine detail on-screen. But that's not all they're good for! Mark Eyles explores the wonders of mono and rounds up 20 mono-compatible games to make mono more magical

You've heard that Atari's SM124 and SM125 mono monitors are ideal for desktop publishing, music and other applications that require high resolution or fine detail – and indeed they are. They're also only £129.99 from Silica Systems (☎ 081 309 1111). But if you try to play the latest game from The Blastup Brothers on your new mono monitor you find that it refuses to run. What's the problem?

There is no problem. The Blastups have written the game to run in colour and no amount of head scratching is going to get it to run in mono. This is because of the very qualities that make mono monitors different from colour monitors. A colour monitor (or TV) can display low or medium resolution screens – the kind you need for games – while a mono monitor can only display high resolution screens.

Inside a colour monitor there are three small guns which fire electrons at the screen. One of these guns makes the screen glow red, one of them green and the other blue. By combining these three colours in different proportions you can produce all of the glorious colours which your ST uses.

Inside a mono monitor, by contrast, there is only one gun, which makes the screen glow white. Since there are three guns in colour monitors, plus three lots of electronics to run them, but only one in mono monitors (with one lot of electronics), mono monitors are much cheaper than colour. And they have distinct advantages over colour monitors or TVs:

- Mono monitors display high resolution screens, enabling you to see more detail than low or medium resolution screens. High resolution screens are essential for programs where you need to display a lot of information on-screen. In a desktop publishing program, for instance, if you lay out a page in medium resolution you can only see half the area you can see in high resolution, making it difficult to get an accurate idea of what the finished page is going to look like. A DTP program running in low resolution would only show a quarter of the area.

3D Computer Aided Design (CAD) programs are often used to show complicated wireframe structures in which every wire can be seen in high resolution, but in medium resolution the individual wires end up running together into a rough approximation of a particularly messy inkblot.

All business programs and most music, DTP and CAD packages look better on a mono monitor.

- Mono monitor screens have a matt finish which cuts down on glare and makes them easier on the eye. They also have less flicker than colour monitors since mono monitor screens are redrawn more times a second than colour monitor screens – that is, they have a higher frame rate. This makes the screen display seem more solid.
- They're good for your health. Mono monitors give off less radiation than colour monitors or TVs.

Mono monitors are a pretty good thing, then. But what about black and white TVs? Sorry. Black and white TVs work in a similar way to colour and cannot be used for high resolution screens.

Why didn't the Blastups write their game so that it would run in high resolution? The vast majority of game-players prefer their games in colour and do not use mono monitors. Few game-writers can justify the effort and time it would take to convert their programs to run in high resolution. They would much rather get on with writing the sequel to *Turbo Panda Pro Wrestling* than make the Pandas strut their stuff in black and white for mono monitor owners, who are likely to have colour TVs or colour monitors already if they play games. Games which can run in mono are usually aimed at the sort of people (intelligent, attractive, witty, sensible, fun loving...) who have got a mono monitor for some other reason.

If you are one of these people, fear not – there's quite a wide range of intelligent, attractive, etc etc games for you to choose from. Here's the *FORMAT* top 20 mono-compatible games. They're arranged alphabetically, since it seems bizarre trying to set a flight simulator, for instance, up against a text adventure and say which is better. Somewhere in this list is a game to make *your* mono life more colourful!

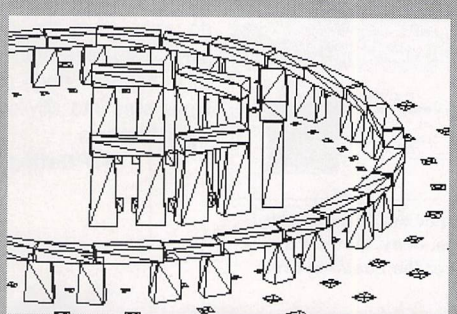
HI, RESOLUTIONS

The ST has three types of screen display: low resolution, medium resolution and high resolution.

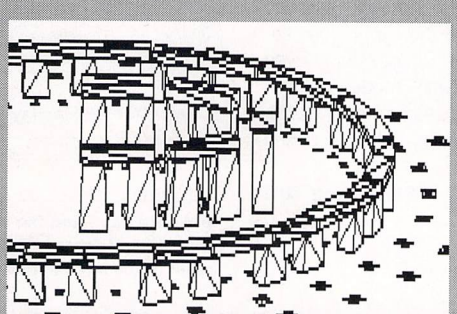
In each resolution the screen display is made up of a grid of dots or pixels (picture elements), but the number of pixels varies. In low res there are 320 across the screen by 200 down the screen and up to 16 colours on-screen. In medium res there are 640 pixels across the screen by 200 down, with up to four colours. In high res there are 640 pixels across by 400 down and you have a choice of black or white.

GET THE WHOLE PICTURE

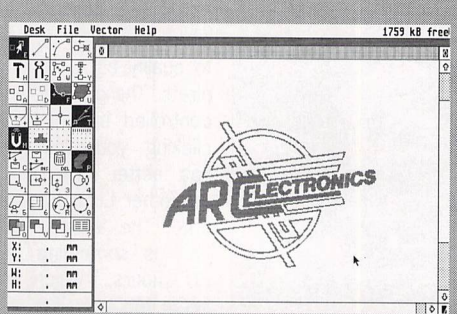
The high resolution images possible on mono monitors have many advantages in different kinds of programs – particularly in DTP and computer-aided design.



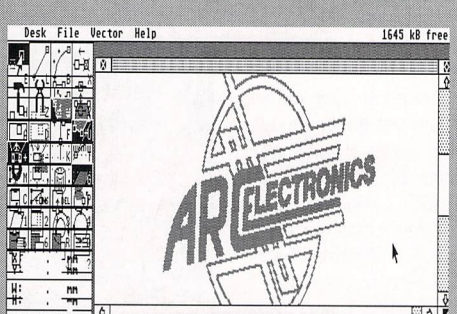
● Stonehenge in high resolution enables those druids to see the sun rise. This is a close-up of an image produced by Antic's *CAD-3D* from Electric Distribution (☎ 0480 496666). Details are clear and objects are easily identifiable.



● Stonehenge in medium resolution and the druids can't even find their sacrifice. This is a close-up of the same area of the image, also produced by *CAD-3D* but in medium res. Obviously the image is relatively crude and lacks detail.



● In this high res screen from *Avant Vector* (System Solutions ☎ 0753 832212) there's no distortion and you can see the whole image. At the same time, you get the increased sharpness illustrated in the Stonehenge pictures above.



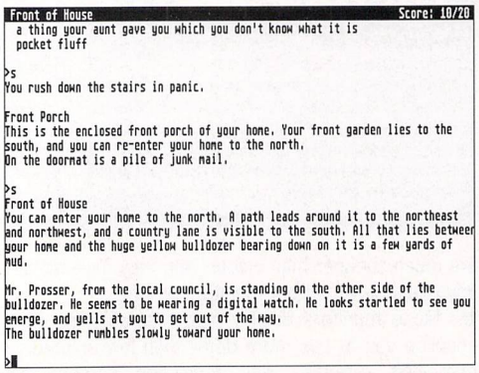
● Medium resolution both distorts the image and shows less of the document (though the dimensions of this picture make the distortion a little more obvious than it actually is on-screen). Clearly, high res is far better for detailed work.

COMMERCIAL GAMES

HITCHHIKER'S GUIDE TO THE GALAXY

£9.99 Mastertronic/Infocom ☎ 081 960 2255

Some years ago Douglas Adams wrote a radio series called "The Hitchhiker's Guide to the Galaxy." This soon mutated into a book, a record, a TV series, a stage play, a deluxe CD set, some more books and finally an ST game. Douglas Adams co-wrote the game himself, using the "interactive fiction" system developed by Infocom, who were pioneers of text adventuring. The result is a classic text-only adventure packed with humour and obscure references to Douglas Adams's peculiar universe.



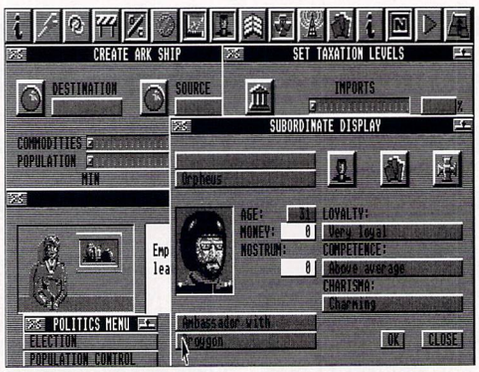
STF Rating 76%

● **Hitchhiking can be tough. Maybe he should just try sticking out his thumb and waggling it. Something tells me it might come in handy...**

IMPERIUM

£25.99 Electronic Arts ☎ 0753 549442

This is a "you've just been elected leader of a galactic empire" strategy game. Training in military strategy, political science and economics would help in ruling the universe. *Imperium* is a large complex game with a friendly screen layout. You control your empire by entering information into boxes similar to the windows on your ST Desktop. Your aim is to conquer all other Galactic Empires, a task which is likely to take months of midnight oil burning even to half finish.



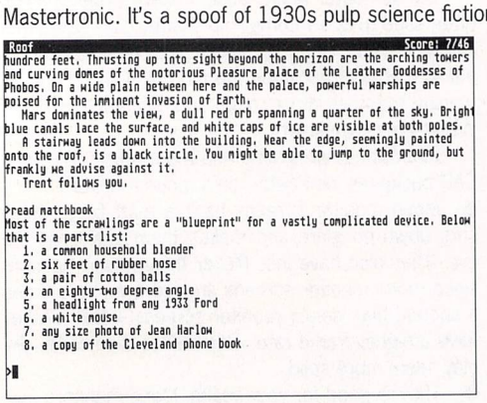
STF Rating 79%

● **What can a poor dictator do when he's out to establish dynastic supremacy and set up an *Imperium*? Let's try taxing them into submission.**

LEATHER GODDESSES OF PHOBOS

£9.99 Mastertronic/Infocom ☎ 081 960 2255

Leather Goddesses is a classic text adventure from Infocom, recently reissued by Mastertronic. It's a spoof of 1930s pulp science fiction and is not only stuffed with innuendo and double entendre but is also funny and well observed. In true pulp fiction style, you're kidnapped from a bar in Ohio and taken to Phobos, where you must start your mission to save the Earth from the Leather Goddesses... Even in "Lewd" mode *Leather Goddesses* is most tastefully crude, debauched and graphic.



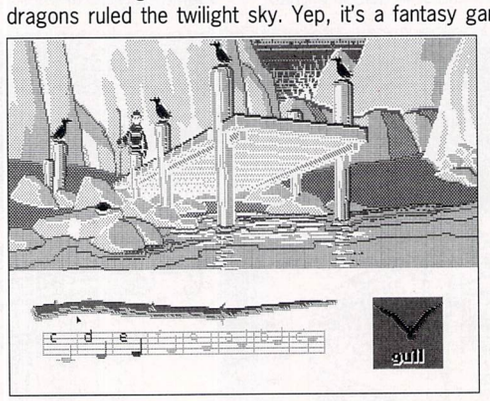
STF Rating 78%

● **On Phobos, see, there's these *Leather Goddesses.* Apparently there was a lot of this sort of thing happening in the '30s.**

LOOM

£30.64 Lucasfilm/US Gold ☎ 021 625 3388

Wield vast magic in a fantastic world on the brink of apocalypse in an age when dragons ruled the twilight sky. Yep, it's a fantasy game. As young Bobbin of the Weavers Guild, you set out on a mission through some superb cartoon graphics to save the universe. *Loom* is a big game featuring some long animated sequences which, although impressive, do slow down the gameplay. The presentation is slick but the story sometimes slips into silly sounding melodrama.



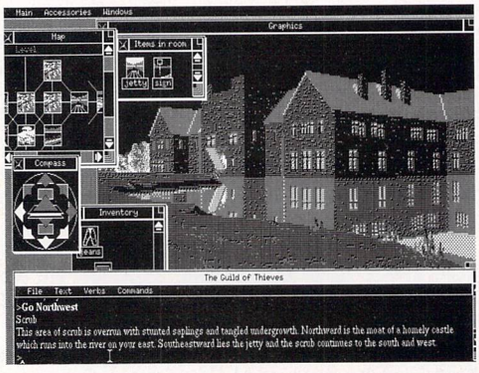
STF Rating 83%

● **Where can I find the secret of the Great *Loom* Thing, oh mighty seagull? Yes, okay, I'll take a long swim if you say so, but answer the question first!**

THE MAGNETIC SCROLLS COLLECTION

£30.99 Virgin/Magnetic Scrolls ☎ 081 960 2255

Corruption, Fish! and *The Guild of Thieves* make up this collection of three adventures with graphics. Playing the games is made easier by the addition on-screen of map, compass, inventory and "items in room" windows. You enter your commands and get descriptions in a text window and can see many of the locations in a graphics window. The three games cover an odd variety of subjects: *Fish!* offers offbeat humour, *Corruption's* a thriller and *The Guild of Thieves* has you stealing as much as you can to gain entry into the aforementioned Guild.



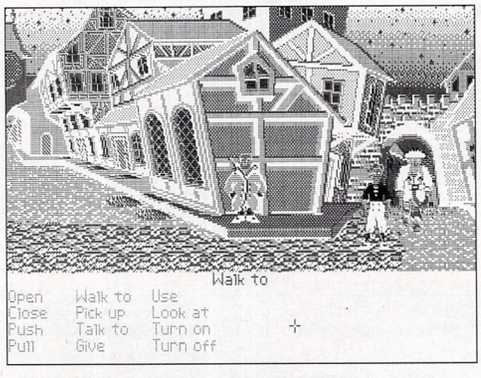
STF Rating 77%

● **So you want to be a thief and join the Guild? Magnetic Scrolls can show you the way. But you've got to learn how to get through a lot of windows...**

MONKEY ISLAND

£25.99 Lucasfil/US Gold ☎ 021 625 3388

Monkey Island's a massive graphic adventure from Lucasfilm (you need at least 1MByte of RAM), sending you back in time to go swashbuckling with a crowd of scurvy seadogs as you try to qualify as a bloodthirsty pirate. The game is entirely controlled by pointing and clicking your mouse and has better graphics than any other Lucasfilm title to date. The average playing time is something around 30 hours, which might seem too long if it weren't for the finely tuned balance of humour and suspense.



STF Rating 96% →

● **Avast there, ye scurvy scum, and splice th' mainbrace afore I keelhaul ye! Er, alternatively, just click on it with the mouse...**

AMAZING PRICES FOR ATARI USERS

GAME	PRICE
3D Construction Kit	26.96
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A.P.B	6.96
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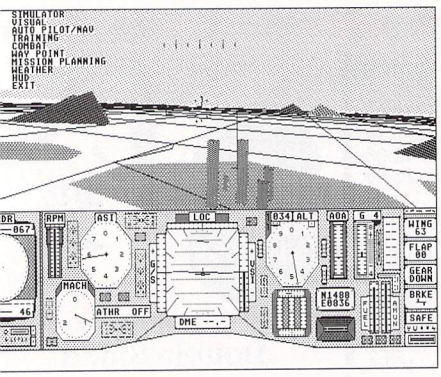
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E & OE

PROFLIGHT

£39.95 Hisoft ☎ 0525 718181

is the sort of flight simulator that pilots train on. Yet in spite of there being at t a million different options and controls, you can climb straight into the cockpit and get flying. After just a couple of weeks' training you should be ready to go into combat – and once you master that on your ST you should be ready for the real thing! The manual tells you more about the Tornado than you're ever likely to want to know, including a snazzy cutaway diagram of a Tornado, and it also extensively covers flight theory, advanced flight theory and where's the eject button I think I've lost control again.



***roflight*, eh? Well, it doesn't seem all that pro- sional to me. Where's the coffee dispenser and n do they bring around the duty frees?**

***STF* Rating 88%**

SCRABBLE DELUXE

£20.42 Virgin/Leisure Genius ☎ 081 960 2255

The ST version of the board game, enabling you to play with friends or against your machine. This is the official version, not to be confused with a certain Public Domain Scrabble game called *STrabble*, which the owners of the Scrabble copyright, Spears games, cracked down on. (See the News pages in *STF* 23.) The only things missing are the arguments that are always generated by playing Scrabble.



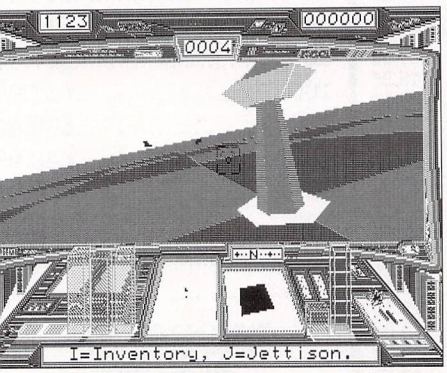
● Well, I thought there was such a word as zxyxing. And anyway, there's definitely something kinky about the words *you've* been coming up with...

STF Rating 68%

STARGLIDER 2 (VIRTUAL REALITY VOL. 1)

£29.99 Elite ☎ 0922 55852

re's a whole star system of planets and moons, in solid 3D, to explore, but you e to become proficient at flying your Icarus Patrol Craft if you're going to survive more than a few minutes. Your Patrol Craft can be controlled by mouse or joystick (using the mysterious One Hand Mode) but somehow always seems to fly like a cornflake packet in a hurricane. This isn't helped by the torrent of missiles that home in as you're buffeted about.



nd as I warily trained my Reeves and Mortimer rsonal sidearm at the creature, I thought: "Eat s plasma laser, small nasty thing..."

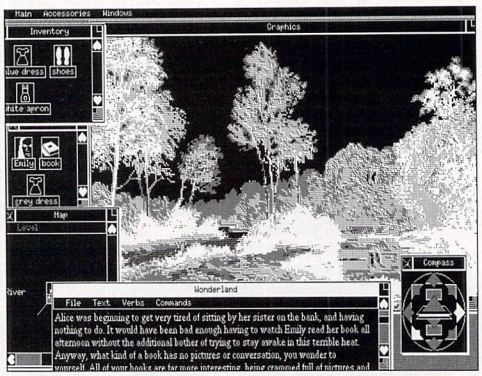
● *Starglider* comes as part of a collection containing *Midwinter, Carrier Command, International Soccer Challenge* and *Stunt Car Racer.*

STF Rating 77%

WONDERLAND

£30.74 Virgin/Magnetic Scrolls ☎ 081 960 2255

State-of-the-art text adventuring, with utterly stunning graphics and a truly wonderful scenario. Magnetic Scrolls have taken Lewis Carroll's *Alice in Wonderland* as a starting point and then built it into a fantastic adventure where knowing the book might help a little but is certainly not necessary. The adventure is displayed in a series of windows containing text, graphics, a map, inventory, items in room and a compass. The drop-down menus at the top of the screen enable you to select commands, so you can play the adventure virtually just by using your mouse. What would Charles Dodgson or Alice Liddell have made of it?



● "And what is the use of a program," thought Alice, "without pictures or conversations?" What a razor-sharp wit she was, that Alice. What a card!

STF Rating 90%

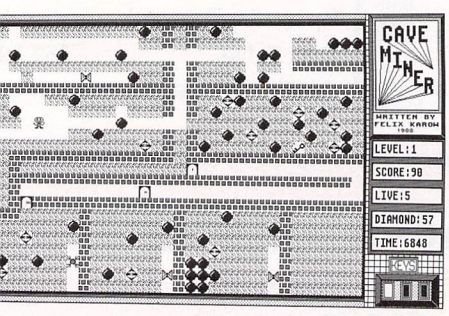
PUBLIC DOMAIN

There are many PD games which run in high res – programmers can write in whatever resolution they wish without worrying about how it might sell. Contact Public Dominator ☎ 0279 757692, Riverdene ☎ 0734 452416, TruST ☎ 0422 341606 or any of the PD libraries listed on page 80.

CAVEMINE

Riverdene – Disk GAM664

Dig your way to the diamonds and collect the keys which enable you to move to lower levels in this *Boulderdash* type game. It's only a shame that the game isn't bigger.



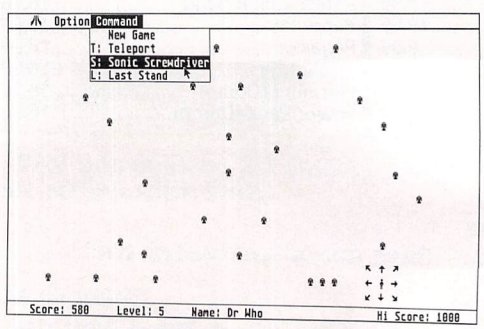
Diamonds are forever but boulders keep dropping your head. No wonder my head is turning red...

STF Rating 68%

DALEKS

Public Dominator – Disk G8

Pathetic graphics and feeble sound but totally addictive. The daleks home in on you as you move around the screen. If two of them hit, they collapse into a heap of ashes, so you have to manoeuvre the daleks into destroying themselves. You also have a sonic screwdriver and teleport to help in dire emergencies.



● Exterminate! Exterminate! When are the BBC going to bring back Dr Who?

STF Rating 69% →

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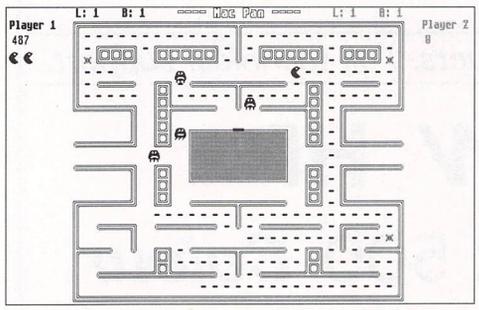
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MACPAN

TruST – Disk MON3



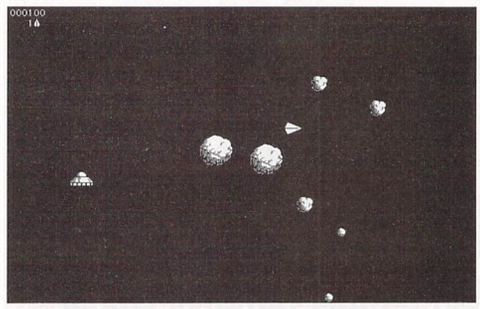
● **Pacman – oops, I mean *Macpan* – is still being pursued by those dastardly ghosts after all these years. Looks like a job for Ghostbusters!**

Not entirely unlike *Pacman*. In fact a damn good copy of *Pacman* with the added bonus that you can adjust the speed the game plays at – a great feature for geriatric game-players or those with slow reflexes...

***STF* Rating 80%**

MEGAROIDS

Public Dominator – Disk G8.2



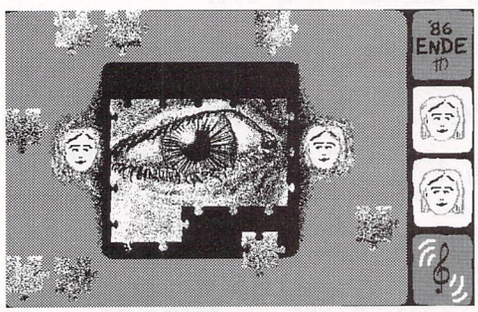
● **Keep banging the rocks together, guys, and we'll develop into a higher lifeform. (But doesn't *Megaroids* sound like a painful condition?)**

The old favourite *Asteroids* by any other name. This is one of many PD games that are – er, *inspired* by established big-name successes. A reasonable copy of the arcade hit, though the fire rate could be a little higher.

***STF* Rating 74%**

PUZZLE PUZZLE

Public Dominator – Disk G8.3 / TruST – Disk MON7



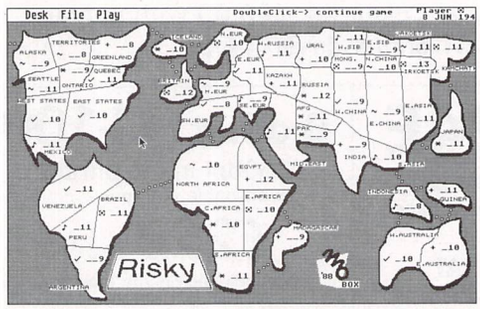
● **Eye eye from *Puzzle Puzzle*. Looks like a pretty good good picture picture. To both of me.**

An original and addictive jigsaw game in which you are given a series of jigsaws to do. As you complete each puzzle it becomes a single piece in the next puzzle, and so on. One is nested inside another ad infinitum – well, for quite a long time, anyway.

***STF* Rating 85%**

RISKY

Public Dominator – Disk G133 / TruST – Disk MON12



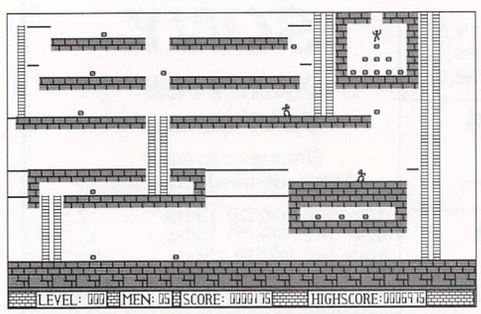
● **World domination? Moi? Dear me, no, I'm just taking these troops on holiday.**

Risk is a board game which transfers well to the ST. You can take on ST-controlled or human players. Totally absorbing. Move armies around the world and attack small defenceless countries. (Well, they asked for it.) There's also a scenario set in the Canary Islands and another set in a city, though the city map looks confusing.

***STF* Rating 88%**

RUNNER

Public Dominator – Disk G8.4



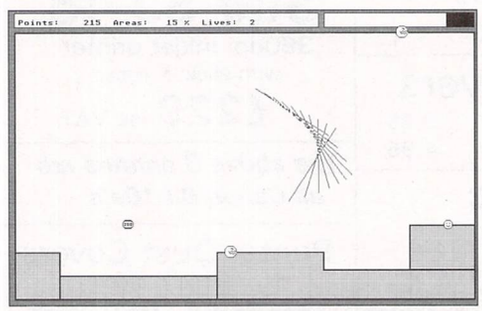
● **If you dig a hole in the right place you can trap your pursuers permanently, on this screen.**

Runner is a great little platform game. To avoid capture you dig holes into which your pursuers fall. The graphics aren't brilliant and the sound isn't great but the game plays well – something many commercial games have a lot of trouble doing.

***STF* Rating 78%**

SQUIXX

Public Dominator – Disk G8.4



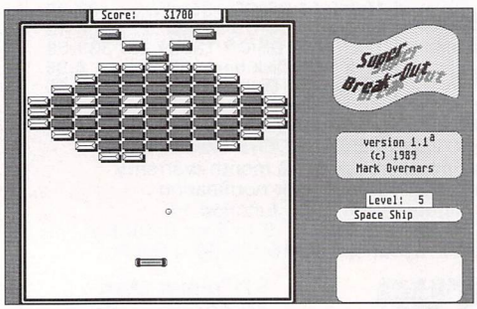
● **Just 'cos you're paranoid it doesn't mean there isn't a little bundle of lines following you around.**

A copy of the very original arcade game *Qix*. Move around the screen enclosing areas with lines. These are then shaded until you have covered enough of the screen to move onto the next level. You are hindered by *Pacman* type monsters and a constantly moving bundle of lines. There's something oddly disquieting about those...

***STF* Rating 68%**

SUPER BREAK-OUT

Riverdene – Disk GAM776 / TruST – Disk MON6



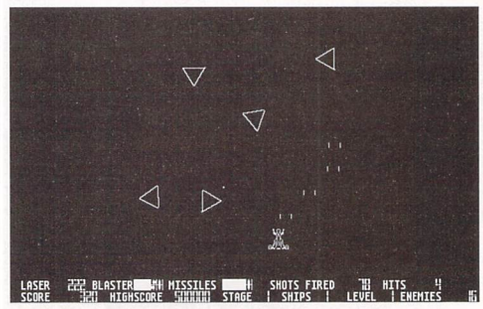
● **Knock out those blocks in a game that drives you to distraction and beyond.**

One of the most addictive games of all time. Not only *Break-Out* but also *Arkanoid, The Revenge of Doh, Impact, Stone Breaker* and all those other brick-breaking wall games are packed into this one. The disk from Riverdene PDL contains full documentation on how to create your own screens.

***STF* Rating 95%**

VECTOR INVASION

TruST – Disk MON3 / Riverdene – Disk GAM776



● **It's an *Invasion!* They came from outer space disguised as spinning triangles.**

Make your ST sound like an arcade with this fiendishly difficult *Galaxian* style invaders game with nice pretend-vector graphics, so you're attacked by spinning little triangles and squares rather than cute space invaders. (Pity they're not real vector graphics built up from lines rather than from pixels like the arcade originals of *Asteroids* et al.)

***STF* Rating 79%**

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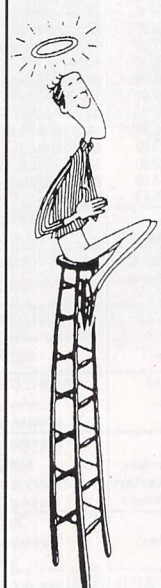
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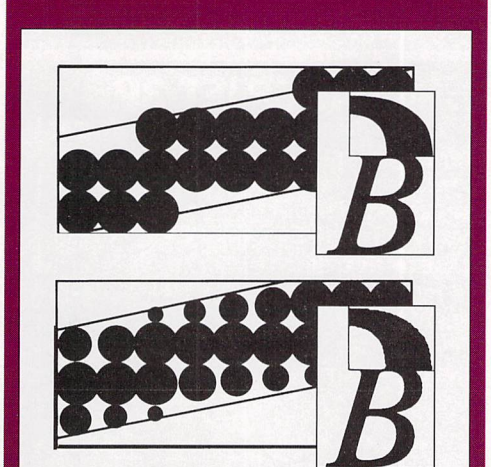
An even better laser

In *STF's* recent printer roundup, one machine stood head and shoulders above the rest. Peter Crush delves deeper into Hewlett Packard's *FORMAT* Gold winning, dandruff free laser printer and its remarkable Resolution Enhancement Technology

MAKE A BETTER RESOLUTION

Most laser printers work at a resolution of 300 x 300 dots per inch (dpi). Anything they print is actually made up of these tiny dots. Although this sounds like a very fine resolution, when you examine laser printed output closely you can detect the jagged edges or steps in any lines which are not exactly horizontal or upright. There are laser printers which can print at 600 x 600dpi, but these are very expensive, as are typesetting machines which work at even higher resolutions.

Hewlett Packard have come up with an ingenious method of extracting greater performance from the standard 300dpi laser engine, and they call it RET. This stands for Resolution Enhancement Technology, and works by the 3P selectively producing smaller dots where required at the edges of text or images to give a more rounded outline. This is all accomplished automatically by software actually within the printer, and is quite independent of whatever program you are using. A switch on the printer enables you to set the amount of Enhancement you require from Light through Medium to Dark, or it can be turned off completely if you wish. However, results are so good you will want to leave it on. The improved appearance of even ordinary text is quite amazing. RET improves anything you throw at it, including DTP pages and images. RET was a unique feature when HP first developed it, but now other manufacturers like Canon and Brother are bringing out their own versions of it. Watch out for reviews soon in *ST FORMAT!*



● It's so simple, why didn't they think of it before? The image is still made up of dots, but placing smaller dots in the right places smoothes out all those jaggies! All the clever calculations necessary are done automatically by the 3P.

Laserjet 3P

MACHINE: ALL STs
PRICE: £1,291
FROM: HEWLETT PACKARD
CONTACT: 0344 369369

The last year or so has seen some amazing developments in printer technology, and some welcome price cuts, especially for the once up-market laser printers. You were once limited to cheap and cheerful dot matrix printers or daisy wheel printers if you were rich. But now, inkjets and even lasers are becoming affordable for all. The latest personal laser printer from Hewlett Packard is available for about £700 to £800 if you shop around. You'd have expected to pay a couple of grand for a laser printer only two years ago!

HP's Laserjet 3P is a compact, streamlined, cream-coloured machine that would grace any home. When you unpack it, the 3P immediately looks and feels "right." Unlike most lasers, this is no ugly duckling. Ergonomically speaking, HP have produced an attractive and well-designed piece of equipment. It's small for a laser printer, with a footprint of 350mm x 405mm – not too big to stand on your desk.

The front panel flaps down to reveal an adjustable paper feeder; load this with up to 70 sheets of A4, or other sizes of paper including Letter and Legal. The printer also copes with envelopes and the clear overhead projection sheets often used in business presentations or lectures.

If you want to keep things neater still, HP can supply you with an optional extra paper tray. This fits almost invisibly underneath the printer, and holds up to 250 sheets of paper, which are automatically fed into the printer as required. The printed pages are deposited either onto the top recess of the printer or into a clip-on tray which attaches to the front of the printer, depending on how you set the switch situated under the front panel.

The 3P connects to your ST via a standard parallel printer cable. This is not supplied, but you do get a power lead complete with 13 amp plug to connect it to the mains. In standby mode, the printer consumes 44 watts of power, and when printing it uses



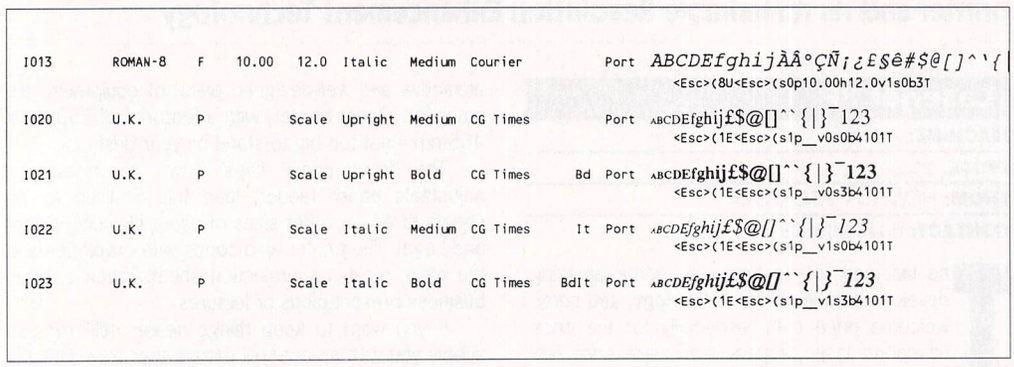
● Apart from the quality promised by the Hewlett Packard name, the Laserjet 3P offers HP's remarkable system for improving the appearance of any output – and it does work!

a hefty 507 watts. A cooling fan is built into the printer – this runs all the time but is not too noisy.

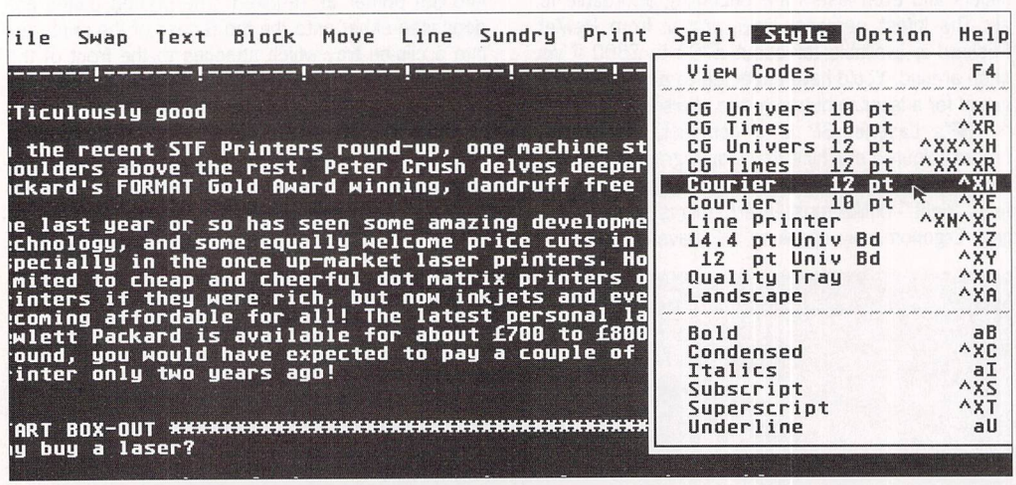
The 3P is pretty straightforward to operate. All the printer settings are controlled by a bank of six multi-function electronic dip switches. These are not the usual fiddly, hidden-away little microswitches, but clearly labelled buttons on the top panel. A small LCD panel displays your chosen settings. You can set the number of copies you want to print, the various international character sets, how many lines of text per page, and many other options. If you wish, these settings can be stored so they become the "defaults" every time you switch on.

The number of fonts (different styles and sizes of typeface) available is most impressive. There are 14 bitmapped fonts with fixed sizes and eight scaleable fonts. The scaleable fonts are held as vector images in the printer's memory and can be used at any size you want, from a tiny 0.25 point up to a massive 999 points, in steps of 0.25 point. (Points are units of text height; there are 72 points to the inch.) This enables you to print beautifully-formed text in a mixture of sizes and styles, giving desktop publishing-like results from any humble word processing software.

Easy selection of fonts is possible from within *Protext*, *STF*'s favourite WP, because of the excellent support for different printers offered by this software. With other WPs, you can insert control codes to select the 3P's features – these codes are all detailed in the informative and detailed handbook supplied. ***stf***



● **From the 22 different typefaces available within the HP 3P, and the ability to use them in Bold or Italic and in a range of sizes, you should be able to chose the perfect style to match your mood!**



● **Many of the Laserjet 3P's in-built typefaces can be selected from within that able WP, *Protext*. If you have a less well-featured textcruncher, you can simply select your chosen font and size on the printer's control panel.**

```
      PRINTING MENU:
        MP SIZE    A4
        COPIES     1
        FONT SRC   I (Internal)
        FONT NUM   0
        JOB SIZE   A4
        ORIENT     P (Portrait)
        LINES OF   TXT   68
        MAN FEED   OFF
        SYM SET    ISO-4
      CONFIGURATION MENU:
        AUTOCONT   OFF
        I/O        PARALEL
        RET        MEDIUM
        PAGEPRO.   OFF

      RAM size:  2048K bytes
      Page Count:  977
      Firmware Datecode:  19900928
      Internal Font Datecode:  19900713
      Font Cartridge Installed:  NO
      Installed Options:  NONE
```

● **The Self Test Page usefully shows you the current Default settings and hardware configuration. The 3P uses *PCL 5*, HP's latest version of the Laserjet printer control language protocol.**

```
Add a second floppy disk
ever lived without it! T
Peter Crush examines the
Test.

Drive B or not Drive B,
been able to use an ST h
and written even more pr
the speed and convenienc
Wordprocessor, Desktop P
and faster with a second
using PageStream 2 you h
ST's internal drive), ar
external or second drive
automatically locate and
swap disks in and out of
and more pleasurable to
the money and go straigh
ought to be your first u
will benefit from a seco
and for the quick and es
```

● **This text has been printed using the HP 3P's internal Font number 3, with RET set on Medium. There are plenty of internal fonts, and you can even add more with optional plug-in cards.**

WHY BUY A LASER?

There are three advantages to using a laser printer if your finances can stretch to it, summed up alliteratively by quality, quantity, quickness and quietness!

1. The print quality is superb, giving the most professional results possible short of typesetting!

2. Output of text is very fast, and multiple copies can be printed rapidly one after the other.

3. Lasers are convenient to use, quiet in operation, and very user friendly.

● For the lowdown on all the best current printers for the ST, check out *STF* issue 25. 20 of them were put to the test, including 9 and 24 pin dot matrix, inkjets, colour and laser printers. If you missed that issue, turn to page 142 for the *FORMAT* back issue service.

THE SPEED OF LIGHT

Laser printers are the fastest way of of getting words onto paper – the HP 3P took only 43 seconds to print a full A4 page of text from *Protext*, and the second identical copy came rolling out of the machine only 15 seconds after that! Once the image to be printed has been scanned onto the printer's drum by the laser beam, further copies are produced much like a photocopier does it, hence the claimed four pages a minute print speed.

Even though it may only be text being printed, the laser treats this as a graphic image, so the image on the drum can contain a great deal of information. The 3P therefore comes with a standard RAM of 1MByte. If you need more for complex graphics, you can buy extra RAM on plug-in cards; an extra 1MByte is about £100.

For printing DTP documents, all conventional lasers are disappointingly slow, being limited by the sheer quantity of data which has to flow down the parallel printer cable from the ST. The 3P took nearly 20 minutes to print the first copy of an A4 *PageStream* page. After that, however, subsequent identical copies came out every 15 seconds again. The only laser printer which is really fast for graphics is Atari's own SLM605, which derives its speed by not using the ST's slow parallel port but the DMA (Direct Memory Access) port instead and using the ST's own memory to build up the image. This non-standard approach means it can print the same page of *PageStream* in just 45 seconds – though admittedly this takes the memory of a TT!

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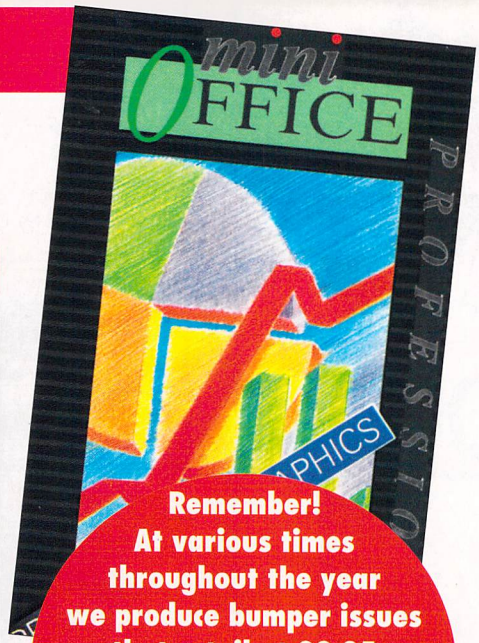
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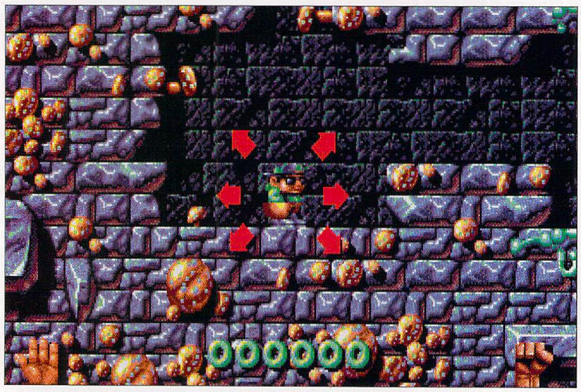


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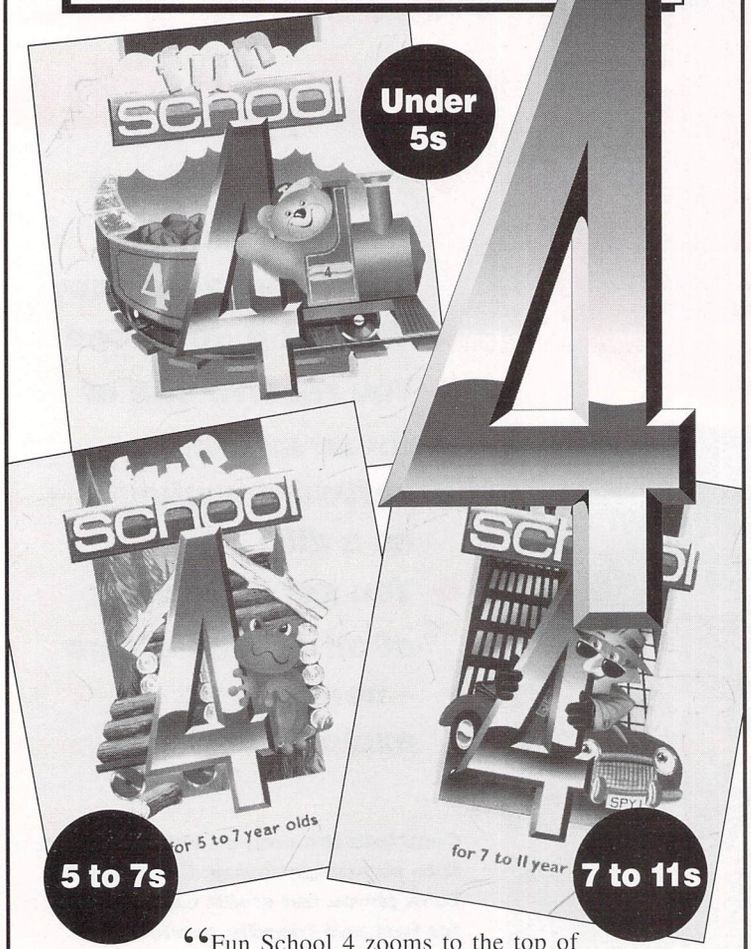
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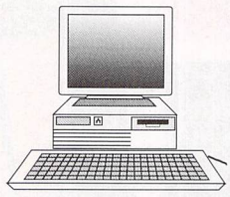
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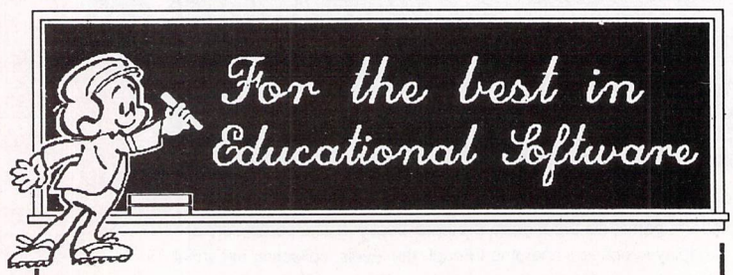
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Lucky dip

This month Terry Freedman looks at a mixed bag of edsoft for the very young. If you're thinking of buying someone an educational present, you may find inspiration here

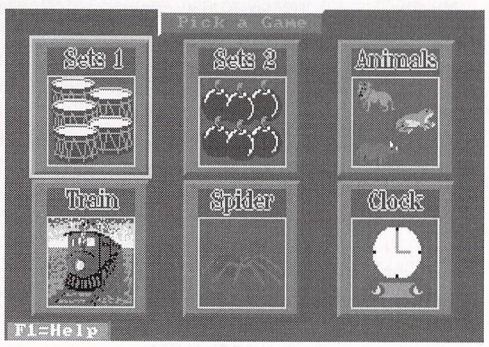
Count and Add

AGE RANGE: 4 – 7
MACHINE: ALL COLOUR STs
PRICE: £25.99
FROM: SCETLANDER
CONTACT: 041 357 1659

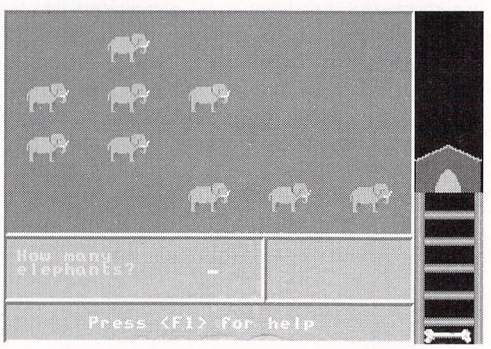
This package is designed to help children understand numbers. More specifically, it helps them learn how to count and also how to add up. There are five games on the disk: *Sets One* and *Two, Animals, Train* and *Spider,* plus a clock you can display. In *Sets One* you have to count the objects on the screen, using the Spacebar. *Sets Two* involves a similar exercise, but without the objects displayed on the screen. The *Animals* game asks you to count the number of animals on the screen, and, by now, you're required to use the number keys rather than the Spacebar. *Train* and *Spider* both require you to count objects on the screen, type in the number, repeat this, and then add the two numbers. *Spider* is played against the clock, making it a little more challenging.

There are several good features about this package. The first thing that strikes you is its colourfulness and general friendliness. A lot of thought has gone into the adult's role. So much edsoft seems to ignore the fact that children usually need help. Even if they can find their way around the program, they still need help in deriving the most from it in educational terms. So, it's gratifying to see that in both the software itself and in the manual, Scetlander have devoted effort to helping you help your child.

As with other Scetlander software, there is an extensive progress Parent/Teacher section of the program, where you can customise the package for your own requirements. For instance, you can set the number of attempts you can make before getting help, the way the sums are presented, the timer, and other aspects. You can also set it to record progress and you can then print out the results.



● **There's more than one way to skin a cat, as they say, and you get lots of choice in *Count and Add.* The games increase in difficulty, starting from *Sets One.***



● **In *Animals* you count the number on the screen. The position of the bone on the ladder on the right hand side is your score in *Count and Add!***

A particularly nice thing about the help given is that it doesn't make you feel stupid when you get something wrong. In fact, it doesn't even *say* you're wrong – it just corrects you!

Nevertheless, we don't live in a perfect world, and there are a couple of aspects of this program which need "tweaking up." First, as far as we could tell, the format of the addition exercises is always A + B = ? (such as 2 + 3 = ?). There seems to be no way of changing it to the form A + ? = B (such as 2 + ? = 5). This is rather important, because children need to understand that the answer comes out the same whichever way around you do the sum.

The other niggle is that when you get to the more difficult games, the help section, where the program takes you through the question slowly, isn't too helpful. That's because if you don't understand how to add up, simply counting the numbers again – as numbers rather than objects – doesn't do a lot of good.

There's no doubt about it, though – *Count and Add* is good value, both educationally and financially. If you think your little one could do with some help with counting and adding, you could do worse than get this.

Contents: 1 double-sided disk; 1 button badge; 35 page manual; boxed

PRESENTATION	9
EASE OF USE	9
VALUE FOR MONEY	8
LONG TERM INTEREST	8
EDUCATIONAL VALUE	7
OVERALL	**82%**

SCHOOL'S OUT – TIME TO START LEARNING?

The long awaited follow-up to *Fun School 3* – called, strangely enough – *Fun School 4,* is in the shops now. It came out just a bit too late for us to give it the "works" this month, but next month we'll be taking you through the whole thing in minute detail. In the meantime, here's a preview of what's to come...

As usual, there are three packages, for each of three age groups: Under 5s, 5 to 7, and 7 to 11. Each one has several parts, linked by a character. For instance, the character in the middle one is Freddy the Frog, while for the oldest one it's Sammy the Spy.

Now, without damaging the chances of giving a fair, no-holds-barred review, we have to say that the preview we've seen here at *STF* is pretty good. These are the features it sports:

- **lots of variety in the type of activity**
- **different levels of play**
- **good graphics**
- **good feedback and help**
- **a parents' and teachers' section.**

It looks as though, somewhere along the line, the folks who produce the *Fun School* range have been talking to teachers, because of the way in which the activities are presented.

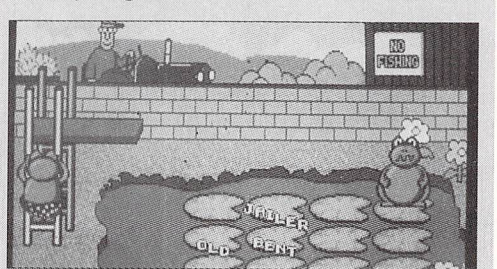
As an example, how do you make addition and subtraction both interesting and relevant, especially when a lot of kids can only do it when they've got their pocket calculator handy? The way the *Fun School* team have handled it is by getting you to calculate train journey times from arrival and departure times. Nothing new in this, of course, but certainly new as far as computer-aided learning on the ST is concerned.

Part of the secret of making edsoft interesting – and therefore useful – is to build in rewards. Unfortunately, no-one's found a way of getting an ST to dispense Mars bars, but the next best thing might be a decent piece of animation, like a frog scoring in a basketball game, or a jolly snippet of music. These rewards have been incorporated into the latest *Fun School* package.

There are several levels of difficulty for each activity, and, in one or two games, you can set a timer going or edit the data so as to customise it, within limits.

The accompanying manuals look quite extensive, although all we've got to go on at the time of writing is a proof version. Plenty of guidance about what the program contains, though not a lot of suggestions about how best to use it, which is a bit of a shame.

So, to sum up – the latest edition of *Fun School* is out, and it looks worth looking into. Being the sort of people we are, the very success of the *Fun School* range will make us look at this new one with a very critical eye. But we make no apologies: as any schoolboy or schoolgirl boffin can tell you, the trouble with doing well is that people start expecting it!



● **Good, clear graphics abound in *Fun School 4.***

Robot Words

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MACHINE: ALL COLOUR STs
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FROM: SHOESTRING SOFTWARE
CONTACT: 0792 649060

Positive proof of the power of the media in general, and *FORMAT* in particular, came this month in the form of new software from Shoestring. In issue 28 we reviewed *Moon Letters* and complained that the instructions that appear when you boot up scroll too fast, and that it was difficult to find the Editor program. In *Robot Words* both of these niggles have been sorted out, and the result is a very friendly program that knocks spots off some of the more expensive commercial ones.

Robot Words is, in effect, a high tech version of *Hangman* – but instead of being hanged you're zapped by a robot that has been built up with every mistake you've made. When you win, you zap them instead.

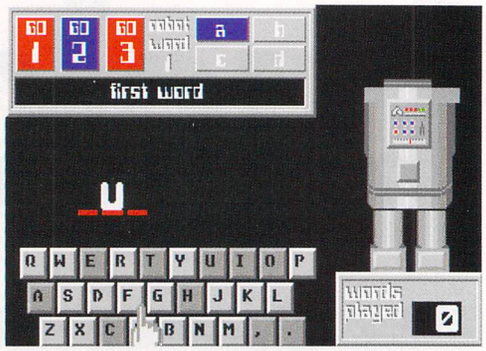
The game gives you three difficulty levels and four word banks to choose from. On Level One you have to solve only one word. On Level Two you have to solve ten words, but the partly-built robot is destroyed each time you get the correct answer. The most difficult level is Level Three, which also contains ten words but doesn't destroy the robot every time you get the right word.

There are several good features of the program. First, when you boot up you get a menu instead of scrolling text. Second, you can scroll the instructions a page at a time. Also, you can select the Editor from this initial menu. All of these features makes the program much more friendly to use, especially for newcomers to the ST.

A particularly good aspect of the program is the Editor. This enables you to add to or replace the existing word banks. This means that you can customise the program to suit your needs and, of course, to maintain interest. Each word bank can have up to 68 words – an odd sort of number, but a good one because it's high – it means that you can have up to about 250 words altogether.

Robot Words is licenceware and is available from several PD libraries. It's fun, it's educational, and well worth buying.

Contents: One double sided disk



● **Time's running out for you in *Robot Words* – a hi-tech version of an old favourite.**

PRESENTATION	9
EASE OF USE	8
VALUE FOR MONEY	9
LONG TERM INTEREST	7
EDUCATIONAL VALUE	8
OVERALL	**82%**

Junior Typist

AGE RANGE: 4 – 10
MACHINE: ALL COLOUR STs
PRICE: £16.95
FROM: SCHOOL SOFTWARE
CONTACT: 010 353 6145399

Here's a package that aims to teach keyboard familiarisation, and packs quite a lot in. You get the instructions on screen, a typing tutor, games, *and* you can turn your ST into a typewriter.

The tutor is quite good, with its colour-coded keyboard and step by step approach. But perhaps more use could have been made of the power of the ST, even if this meant a price increase. For example, it would be a nice touch if, when you're asked to type a letter, the correct key and finger appeared on the screen. More seriously, the program seems to allow you to carry on and on even if you get everything wrong! On the plus side, it gives you good feedback about speed and accuracy.

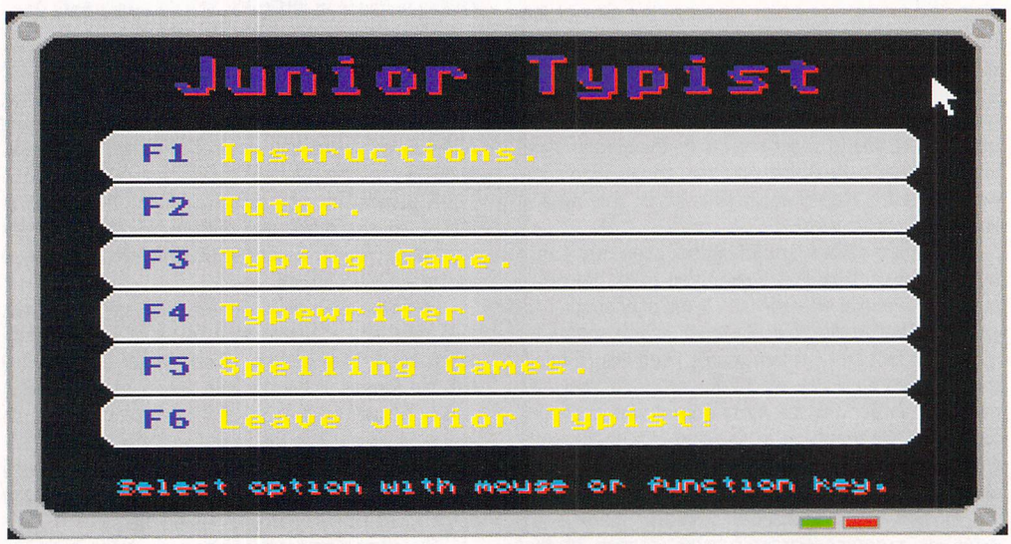
The games consist of a *Space Invaders* type game where you have to type a word in order to zap it as it's coming down from the "skies." This is a tried and tested approach which works well. The harder levels involve longer words, and, contrary to popular opinion, it is *not* easy to cope if you don't know your home keys from your away keys.

There's also a spelling games section, and this enables you – the parent or teacher – to set the pace, including the time allowed, nurnber of questions asked and the level of difficulty. You can also choose between games involving words or sentences and typing exercises. You can't make a mistake in the typing exercises, because the program only enables you to type in the *correct* answer. Now that's the kind of test we at *FORMAT* like! In all, there are eight difficulty levels.

A relatively minor quibble is that when you look at the instructions on the screen, they scroll in the opposite way you'd expect from using GEM. A more important one is that the instructions are very small, and they look a bit daunting as a result.

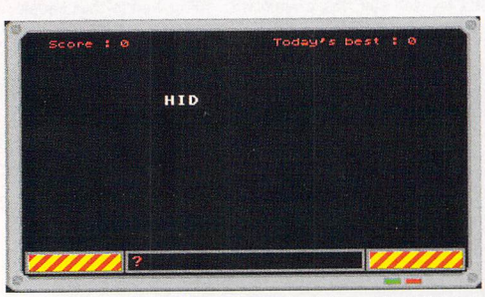
On the whole, though, *Junior Typist* represents good value for money and would make a useful and entertaining present for budding secretaries or even *STF* writers!

Contents: 1 double-sided disk; boxed



● ***Junior Typist* shows that typing can be fun – and even interesting – to learn! Loadsachoice for your money.**

PRESENTATION	6
EASE OF USE	9
VALUE FOR MONEY	8
LONG TERM INTEREST	8
EDUCATIONAL VALUE	7
OVERALL	**78%**



● ***Space Invaders* were never like this, and neither were typing drills! Who says you can't learn by playing games? See that you can in *Junior Typist!***

GAMES FOR HOMEWORK?

"But Uncle Ebenezer," Bob cried. "You *promised* I could play a game when I'd finished!"

"Never mind that," Scooge snarled. "Clean the fluff out of your mouse and load up another piece of *educational* software."

Is this dialogue really that unfamiliar? So many people seem to draw a distinction between education and fun or, more accurately, between games which are educational and those which are fun. Life isn't that simple – even shoot-'em-ups can have some educational value – like teaching manual dexterity, adding up and strategy/forward planning. And when you consider the god-games that keep appearing, then you're into really serious stuff, like financial planning, thinking about the future effects of your actions and understanding the instructions.

So, the next time your children come home from school and announce that their homework is to play games on your ST all evening, they could just be telling the truth!



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Please note 512K versions will not include some features listed above.

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Introducing ATARI ST Machine Code

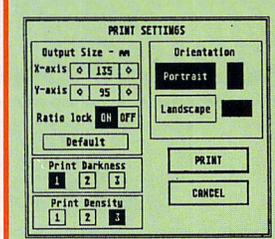
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(Book & disk) £20.00, £1.00 p&p (UK)
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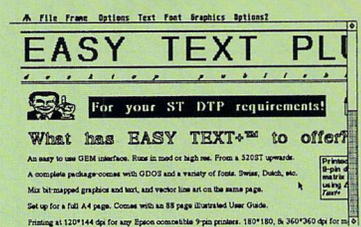
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Desktop TIPS

Under the guiding hand of Neil Jackson, Desktop goes clock-watching, picture-probing and disk-swapping. Read closely and you could, too

HARD DRIVIN'

With the rise of the PC-contemptibles, you might find you can get hold of 3.5 inch floppy drives that have double the capacity of standard ST drives. These 1.44MByte drives can be fitted to an ST with a bit of fiddling about, although it's not the simplest process in the world. Reader **Graeme Dobie** from **Edinburgh** has tried it on his ST, and succeeded.

Here's what you need to get things wired up:

- 14-pin DIN Line Socket – for connection to the floppy disk port in your ST (stock code JW98G from Maplin's, ☎ 0702 554161), and
- 34 Way IDC Socket and Cable – for connection to the drive itself (Maplin stock code BK96E).

High Density (HD) 1.44MByte drives differ from ST Double Density (DD) drives in one important respect – they don't have a separate power supply input. Instead HD drives get their power from the same ribbon cable which carries the motor controls and data. The table shows how the cable is connected.

If you find that your HD drive is permanently wired (internally) to be drive A, then you can fool the ST into thinking that it's actually drive B. Just separate the wires numbered 10 to 16 in the ribbon cable, by carefully slicing between wires 9 and 10 and again between wires 16 and 17. Then you can flip this isolated section of cable, and place it into the plug so that wire 10 swaps position with wire 16, 12 swaps with 14 and so on. This effectively swaps the drive selection controls from the ST and makes the HD act as drive B.

The only major disadvantage with HD drives is that they require a much faster stepping pulse to provide 1.44MBytes of disk space. With the information above you can only make the drive function as a normal DD drive, giving 720K. The normal floppy disk controller chip (WD1772) in the ST can't supply the faster clock speed without modification. It is rumoured that the WD1772 still works if its clock speed is uprated from 8MHz to 16MHz – and since its pulse-timings are based on its clock speed, the HD drives can then use the full 1.44MBytes of disk space available. Desktop has 100 quid up for grabs to the reader who can supply a full tip and circuit diagram to do this – any takers?

ST TO HD DRIVE CONNECTIONS

PRIZE £50 WINNER

ST FLOPPY PORT		HIGH DENSITY DRIVE CONNECTOR	
Pin	**Function**	**Pin**	**Function**
1	Read data	30	Read data
2	Side 0 select	32	Select head 1
3	Logic ground	Any odd-numbered pin from 13 to 33	
4	Index pulse	8	Index
5	Drive 0 select	14	Drive A select
6	Drive 1 select	12	Drive B select
7	Logic ground	Any odd-numbered pin from 13 to 33	
8	Motor on	10 & 16	Motor A and B respectively
9	Direction in	18	Direction
10	Step	20	Step pulse
11	Write data	22	Write
12	Write gate	30	Read
13	Track zero	26	Track 0
14	Write protect	28	Write protect

Extra connections are needed at the HD drive end:

3	Power supply ground
5	+5 Volts DC
6	+12 Volts DC

KEEP AN EYE ON THE CLOCK



If you're writing programs you may find you need access to the ST's system clock, so that things can be timed or frames can be counted. **Andrew Fish,** from **Kelvinbridge** in **Glasgow,** wants to know how →

FRESHEN YOUR FIREPOWER

Is your <Fire> button getting tired these days? **Simon Hird** from **Retford** found that, despite the high cost of his microswitched joystick, it suffers from sticking contacts and poor rapid-fire action as badly as a real cheapie.

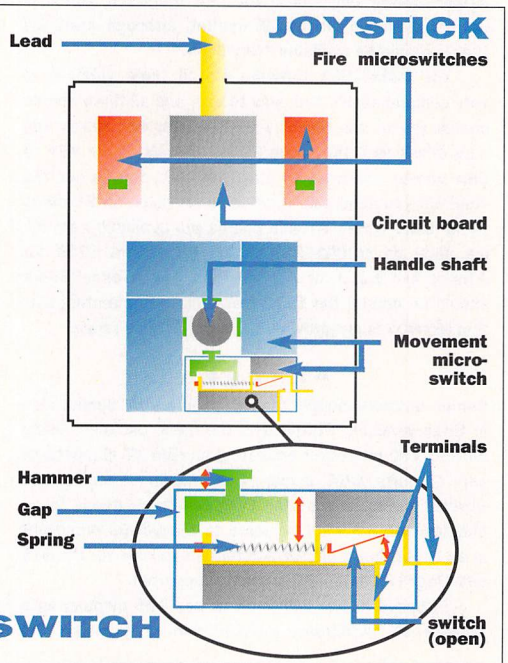
After undoing the four screws holding the joystick's base together, Simon rooted out the <Fire> switch and closely examined it. The mechanism used by most microswitches is the same – and they generally suffer from the same fault as a result.

The main moving part of the switch is a small plastic hammer which rests against a wire spring. This spring is joined to a flat metal sheet which has a contact at one end. The pressure of the hammer moving down against the spring should cause the spring to flex, which, in turn, flicks the contact into the "make" position. When the hammer is released, the spring pulls the contacts apart again and breaks the connection.

The trouble is that the hammer is usually free-floating and can move laterally as well as up and down. This can make the pressure against the spring a bit feeble, causing the switch contacts to remain unmoved. Worse, the spring may move the hammer sideways when the pressure is released, causing it to get stuck in the corner before the switch-contacts can be disconnected.

Simon's solution was to cut a small plastic strip from some packaging material, just large enough to fit into the gap behind the hammer without impeding its vertical movement. When the whole setup is carefully re-assembled, the hammer can now only move vertically with no slack – so the spring contacts make and break properly every time.

● Even top-quality microswitches inside expensive joysticks can go wrong, causing you endless hassles with sticking buttons. Now you can fix them with nothing more than a small piece of plastic.



IMPERSONATING PC PLOD – A DESKTOP SPECIAL BY CLIVE PARKER

If you use a PC-contemptible at work or school and want to bring your work home with you, you don't need to lug your machine home as well – your ST can run the software itself, with the aid of an emulator. There are three major hardware IBM emulators on the market – the ATonce series, the PCSpeed/ATSpeed series and the Supercharger series. Both the ATonce series and the PCSpeed/ATSpeed series are fitted internally to the ST, and the Supercharger series plug into the DMA port. Here's a run-down on what to expect from each device:

ATONCE

The Vortex ATonce series now come in three distinct models: the ATonce, the ATonce Plus and the ATonce-386SX. The ATonce is a 16-bit 80286 emulator with a Norton SI speed rating of 6.7. It supports Olivetti, Hercules, CGA and Toshiba T3100 screen modes and supports normal PC sound. The board needs to be soldered direct to the ST's 68000 processor in most cases.

The ATonce Plus is an upgraded version of the original board running at a clock speed of 16MHz.

The new ATonce-386SX is also a 16MHz emulator



● **Whaddya mean you wish you'd bought a PC-contemptible? With devices like ATonce and ATonce-386SX, there's really very little need. Your humble ST has the power to make a perfectly acceptable PC-platform – but it may cost more than you think.**

with a Norton SI rating of 15 if the optional fast RAM is used. The 80387-SX-16 coprocessor is supported as are mono EGA and VGA screen modes. Unfortunately, the ATonce-386SX only fits in the new MegaSTE, which is not yet available on the UK market, although Atari say that it should be available "very soon."

The installation software for all three versions is very comprehensive and easy to use, and all three boards enable you to use the ST's own mouse, disk drives and hard drives as if they were PC peripherals. If it's VGA or EGA games you want to play, however, this is not the emulator you need, and there is no provision for PC cards to be used. Vortex ATonce boards are available from Silica shop on ☎ 081 309 1111. Prices are £199 for ATonce and £219 for ATonce Plus. The ATonce386-SX should be around the £270 mark. The PC operating system MS-DOS is not provided with the ATonce range.

PCSPEED

Compo Software supply the PCSpeed and ATSpeed, also in three versions. PCSpeed is the basic package, using an NEC V30 processor emulating an IBM XT compatible, and supports CGA colour, CGA mono, Hercules and Olivetti screen modes. The PCSpeed board needs to be plugged into a socket soldered to the 68000 processor in an STFM, but a plug-in adaptor is available for the STE and MegaST. Normal PC sound is supported.

PCSpeed allows you 640K of free DOS memory on a 1MByte ST. Additional memory can be accessed as Extended Memory. The ATSpeed is an upgraded version of PCSpeed using an 80286 processor allowing PC AT emulation. It allows the same screen emulations as PC-Speed with the addition of mono EGA and VGA emulation. Normal PC sound is supported. Like the PCSpeed, the board needs to be plugged into a socket soldered to the STFM's 68000 processor and a plug-in adaptor is available for the STE and MegaST.

The ATSpeed C16 is a 16MHz version of the AT-Speed, giving a Norton SI rating of 8.2. It uses a CMOS 80286 processor (80C286) for reduced power consumption and generates little heat. There is a socket for an optional 80C287 coprocessor, although the board does not fit in an STFM or STE with a coprocessor fitted – the ST would need to be re-housed in a tower case. ATSpeed C16 comes complete with DR-DOS 5 from Digital Research, which is generally regarded as being better than MS-DOS. There is no provision for PC cards or other expansion with any of these emulators.

Prices are £99 for PCSpeed, £149 for ATSpeed, £249 for ATSpeed C16, £25 for the STE or MegaST adaptor, £49 for Mega STE adaptor and £89 for the 80C287 coprocessor. Compo Software are on ☎ 0480 891819.

SUPERCHARGER

The Supercharger emulator comes in two versions, the original Supercharger and the Supercharger SC Plus 286. It is different from the ATonce and PC/ATSpeed ranges in that it is supplied as an external stand-alone unit which plugs into the DMA port.

The original version runs at 8MHz and it has its own 1MByte of internal memory, which means that you can switch between PC and ST programs running at the same time. Some programs designed for faster AT machines may not run properly. It comes complete with MS-DOS and has a DMA throughport. All Atari peripherals are supported, including hard drives.

With the aid of an emulator, your ST can run PC software, so you can bring your work home with you – but if you want to retain your ST system without modifications, it's just as cheap to buy another PC

The new SC Plus 286 is an upgraded version which comes in either 12MHz or 16MHz models. Full AT emulation is offered in this version, so there should be no problems with software. The SC Plus also has two PC expansion slots, so that you can use VGA boards (with a suitable VGA monitor), PC sound boards, hard cards (a hard disk on a card), internal modems, fax cards and so on. The cost of the SC Plus is £528 for the 12MHz version and £582 for the 16MHz. This would be the best bet for emulation of a 286 on the ST. Supercharger is available from Condor Trading Ltd ☎ 0734 810066.

If you want to retain your ST system and software without modifications, then it would be just as cheap to buy a full 286 or 386 PC with all the options you require as it would be to buy the Supercharger, VGA monitor and card, and a hard card. Remember that on most PCs you get at least three full size card slots these days.

● **For a complete roundup of emulators, see the special feature in *STF* 25. If you missed that, turn to page 142 for the *FORMAT* back issue service.**

→ he should go about this, so that he can use a real-time clock in a game he's converting.

The ST has a number of internal systems you can use for timing. The easiest to use is the frame counter (known as _frclock), located at address 0466 (in hexadecimal). It's a longword (that is, four consecutive bytes) which gets incremented during the vertical blank stage of every screen frame. That's 50 times a second. To use it, all you need to do is read the address. The byte at 0466 is the most significant byte and the byte at 0469 is the least significant, so you can decipher a number between 0 and 65535 which represents the number of frames displayed since power-up.

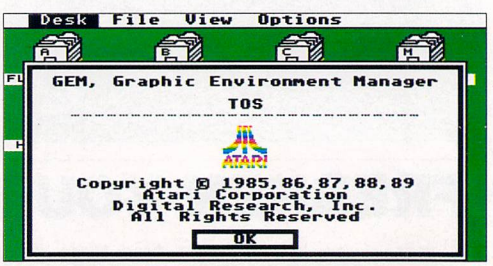
BABY TIGER BLUES

A few years ago, the Microvitec Cub monitors were all the rage at schools and colleges, for use with those awful BBC 8-bits. If you're looking for a bargain, you might be able to pick one up for next to nothing, like **Paul Ankin** from **Cardiff.** They can take a bit of setting-up in some cases, depending on how they were used in their previous environment. The Microvitec range was designed to be able to connect to virtually anything, so there are a lot of different wiring options you can mess around with.

Paul's Cub is a 1431 model – the most common – but he's having trouble getting a picture. All he's getting is a blank white screen when he connects it to his ST – despite obtaining wiring details from Microvitec themselves.

This is because the ST produces video signals which are between 0 and 1 volts at 75 ohm impedance. These cannot be plugged directly into the Microvitec Cub, which expects TTL-level signals between 0 and 5 volts or linear signals between 0 and 4 volts at 1500 ohms impedance. Microvitec produce a special adapter board, called a "1 Volt peak-to-peak board" which fits inside the Cub's casing and converts the video signals. You can get hold of one of these handy little units by contacting Microvitec on ☎ 0274 390011.

BACK TO SQUARE ONE



● **Find out if your ST is fitted with TOS 1.4, the pre-STE operating system with extra keyboard shortcuts. Just look for the rainbow in the Desk menu – or Zippy and Bungle in your disk drive.**

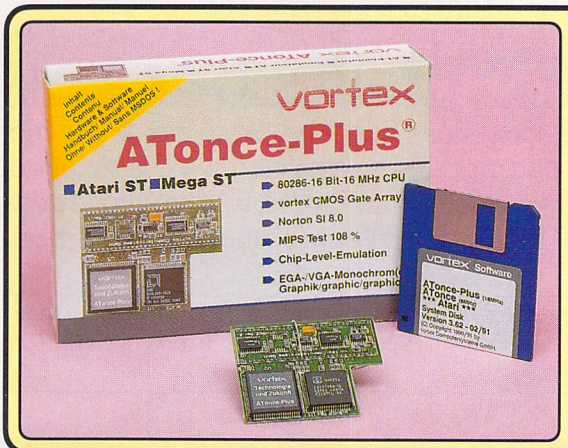
If you're using PC Speed on a TOS 1.4 ST, like **Mark Painter** from **Bridgwater,** you might find these two keyboard shortcuts useful. You can reset your machine so that it starts again by pressing <Control>, <Alternate> and <Delete> together and then pressing <Esc>. This does a "warm" reset which doesn't affect any system vectors that have been installed by other programs and accessories.

You can also force a second type of reset – a "cold" reset – by pressing <Control>, <Alternate> and <Insert> together. This causes a complete restart, like you get if you switch the power off and on again. These key commands should work on all STs with a TOS version later than 1.4, and they can save a good deal of messing around hunting for the ST's tiny reset switch. →

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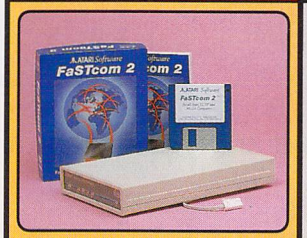
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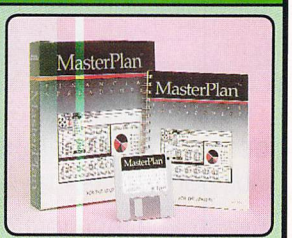
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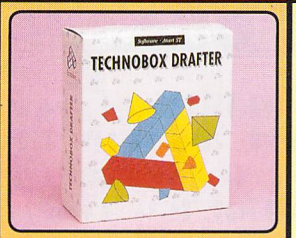
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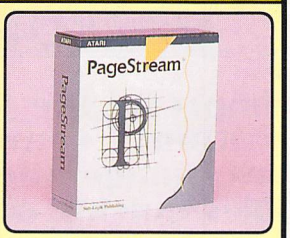
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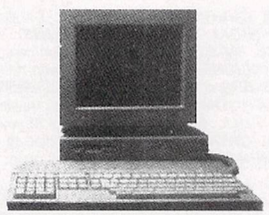
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GFA Programmers' surgery

Once again, Barrie Capel tackles your *GFA Basic* programming queries

Steven Harris from **Bristol** and **Mark Jones** of **Kingswinford** both write in asking how you can load a picture in without it being seen – say a screen of sprites or a second screen to be used later.

If the picture is purely for displaying – that is, a background screen – then it can be BLOADed into a string and placed in view when required with the screen version of the PUT command – SPUT. This needs to be a 32,000 byte screen – for instance, a *Degas* PI1 file with all but the actual 32K screen data removed. The following listing does this.

● Note that where a line of listing is too long for a single line on this page, the ↵ symbol is used to indicate that you continue typing without a line break.

```
' Listing 1 - Load 32K Screen (Created With
                              Listing 2)
' Assumes colour palette set up elsewhere
'
CLS
Background$=Space$(32000)      ! Create empty
                               string
f$="DATA01"                    ! Use Your Own
                               Filename
BLOAD f$,VARPTR(Background$)   ! Load data
                               into string
```

You can create such a 32K file yourself with the next listing, which loads your picture in and uses BSAVE to save the stripped screen image. Your own program should set up the colour palette, so the 32K screen doesn't need one!

```
' Listing 2 - Make 32K Screen
' Disregards colour palette
'
CLS
Fileselect "A:\*.PI?","",f$
                  ! Degas PI Files Only
If f$<>""
  BLOAD f$,XBIOS(2)-34      ! Load Into Screen
  VOID XBIOS(6,L:xbios(2)-32)
                  ! Set Colours
  Fileselect "A:\*.*","",f$
                  ! Use Your Own Filename
    If f$<>""
       BSAVE f$,XBIOS(2),32000
    Endif
Endif
```

If your picture is a set of sprites that you need to cut from the screen, the above method is not suitable, because you can't use GET unless the data is on-screen. This means we need a different method, as follows. The ST's screen is always 32,000 bytes (32K) long but is not fixed in memory, so a pointer is needed to tell the system where to find it. But, as far as the ST is concerned, for the screen there are two relevant memory addresses. The first is the physical screen (the one you see), and is pointed to with XBIOS(2). The other is the logical screen (the one it writes data to), which is pointed to with XBIOS(3).

Normally, these pointers point to the same 32K block. Try typing in direct mode the two lines:

```
PRINT XBIOS(2)
PRINT XBIOS(3)
```

However, it is possible to create another 32K block in memory and redirect the ST to it with the **XBIOS(5)** call. You could therefore load a picture onto the screen in view, set the logical screen address to your new block, load and cut out the sprite screen (unseen on-screen), then switch back to the original screen.

Once again, you could use listing 2 to create your 32K screens. This has the advantage of stopping less experienced users loading your screens into an art program and altering them.

Obviously, the name inside the quotes on the **'f$='** line must correspond to the filename you entered when saving using listing 2, and in your program the method can be used with different string variable names to load as many screens as your memory will allow, using SGET after each load. When you want a picture displayed, just use the line:

```
SPUT sv$
```

where "sv$" is the variable name of the screen you want to display.

```
' Listing 3 - Load Hidden Screen & Work On It
'
Dim Screen%((32000+255)/4)
See_scrn%=Xbios(3)
Work_scrn%=(Varptr(Screen%(0))+255) And ↵
                  &HFFFF00
'
' *** Use your own loading screen filename
'                 on the next line ***
Bload "Loadscrn.PI1",Xbios(3)-34
                  ! Load Degas PI?
Void Xbios(6,L:Xbios(3)-32)
                  ! Set Colours
Void Xbios(5,L:Work_scrn%,L:See_scrn%,-1)
                  ! Switch work screen
' *** Use your own sprites screen filename
'                 on the next line ***
f$="Sprites.PIC"
Bload f$,Xbios(3) ! Load Sprites Pic
'
' Cut out sprites routine here - loading
' screen remains and all screen commands
' remain unseen by the user
'
Void Xbios(5,L:See_scrn%,L:See_scrn%,-1)
                  ! Back to screen one
' Rest of program ...
```

AUTO FOLDER PROGRAMS

Justin Bass in **Ilkley** wants to know if there are any rules to stick to when producing compiled *GFA* programs to run from the AUTO folder, and also how to create a scrolling message. The answer to the first question is yes – there are quite a few restrictions, but a general rule of thumb is that you can't use anything which uses GEM because the ST runs AUTO folder programs *before* GEM is initialised. This rules out the mouse, menus, fileselectors or alert/dialogue boxes. You can load a *Degas* picture onto the screen, but you can't use any of *GFA's* drawing commands like line or circle. Disk access and text only files using the keyboard are fine though, and such programs are usually refered to as TOS files.

Scrolling messages can be created either by character or by pixel, the latter being much smoother but slower. Character scrolling is the easiest and fastest and uses strings as shown in listing 4. The idea is to count through the message string in blocks of 40 or 80 characters, depending on the screen resolution. In the example, the message is built up from five short strings so they fit onto the page – you can make them longer in your own programs. The example listing can be made to work in low or medium resolution by changing the value of column% on the third line.

```
' Listing 4: 40 or 80 Column Message Scroller
' Character Scroll
'
Cls
Hidem
Column%=79          ! 79 = 80 column med res
                    ! 39 = 40 column low res
M1$="This is the piece of text that ↵
        I want to scroll "
M2$="across the bottom of the screen ↵
        as fast as I "
M3$="possibly can. It can be up to ↵
        32K long, and you "
M4$="will notice that the last ↵
        character of the message "
M5$="must be a space or odd things ↵
        will happen. "
Message$=Space$(Column%+1)+M1$+M2$+M3$+↵
        M4$+M5$
L%=Len(Message$)
Do
  For X%=1 To L%
    Print At(1,24);Mid$(Message$,X%,Column%)
    Pause 0.1       ! Increase to slow down/
                    ! remove to speed up
    If Mousek       ! Mouse button to exit
        Xit%=1
    Endif
    Exit If Xit%
  Next X%
  Exit If Xit%
Loop
Edit
```

Pixel scrolling involves a little more work, so it's a little slower. The finer the scroll, the slower it gets. You use the same method as the character scroll but after each PRINT to the screen you GET the text as a graphics block and place it one pixel to the left (see listing 5). Because the characters are eight pixels wide, the process is repeated eight times before the PRINT is repeated and the whole cycle begins again.

```
' Listing 5: 40 Col (Lo-res) Message Scroller
' Pixel Scroll
Cls
Hidem
M1$="This is the piece of text that ↵
        I want to scroll "
M2$="across the bottom of the screen ↵
        as fast as I "
M3$="possibly can. It can be up to ↵
        32K long, and you "
M4$="will notice that the last ↵
        character of the message "
M5$="must be a space or odd things ↵
        will happen. "
Message$=Space$(40)+M1$+M2$+M3$+M4$+M5$
L%=Len(Message$)
Do
  For X%=1 To L%
    Print At(1,25);Mid$(Message$,X%,39);
    Get 0,192,319,199,T$
    For X1%=0 To -7 Step -1
        Put X1%,192,T
        Next X1%
        If Mousek
              Xit%=1
        Endif
        Exit If Xit%
    Next X%
    Exit If Xit%
Loop
Edit
```

That's all for now, but if you have any queries about using *GFA Basic*, write to GFA Programmers' Surgery, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. Sorry, we can answer questions only in these pages – personal replies are impossible.

PROBING INSIDE PICTURES – PART 2

Last issue we exposed the two most common picture formats, NEO and *Degas*. One of the most annoying formats you're likely to come across is the standard GEM Bit Image (.IMG) format. Despite the fact that it's the only truly GEM-compatible format and stores details of the physical size it should be displayed at, it's one of the least known. So here it is in full – now let's get those conversion programs written, coders!

From the start of the file you find:

1 word For the version number of the IMG file. This is usually just 00 01, denoting a version 1 file.

1 word For the length of the header block in words – usually 00 08. The header block is where information about the picture is stored. Its size can vary because there is no standard method for storing the colour palette. Consequently, some programs create mutant versions of .IMG files with palettes shoe-horned into a larger header. Always check the value of this word, so that you can precisely gauge the position of the beginning of the pixel-data block.

1 word For the number of colour bit-planes. Normally this is 00 01, denoting a single-plane, monochrome image. If colour images are used, this value is 00 02 (for two-plane, medium-res) or 00 04 (or four-plane, low-res). Where two or more bit-planes are used, the bit-planes are stored one after the other, beginning with bit-plane zero.

1 word For the pattern length in bytes. The "pattern" is used as a template when data is stored in "pattern-run mode" in the main pixel-data block. Normally, it's 00 02, for screen images, but it can be any value between 00 01 and 00 08.

1 word for the pixel width in microns (thousandths of a millimetre).

1 word For the pixel height in microns.

1 word For the width of each scan-line in pixels. This may be between one and seven pixels shorter than the actual length of each line when the file is read in. This is because the use of byte-wide packets in the data-storage area means that each scan-line is a multiple of eight bits long.

1 word For the number of scan-lines in the entire picture.



● Whenever you use a scanner to create an image for your ST, you're likely to generate an .IMG format file as a result. Because this format was so little known, these complex but potentially very powerful files were usually very difficult to convert to another format... till now, that is.

From here the data storage area begins.

Data is stored in any of four different ways, depending on the first byte, called the operation code (op_code), in each block.

If op_code = 0, then the data is stored in either pattern-run or scanline-run mode. The next byte, called patt_repeat, must be read in to find out which mode applies.

If patt_repeat is non-zero, read in a number of bytes equivalent to the value of the pattern length stored in the header. If the pattern length was two, for example, you should read in the next two bytes. This two-byte pattern is then repeated on-screen patt_repeat times. Then the next byte is a new op_code.

If patt_repeat is zero, scanline-run mode is used. Here, the next byte must be a check-mark, with the value FF (in hex). After this comes another byte which determines how many times to repeat the scanline data down the screen. At last comes the actual data for the scan-line itself and this is simply packed into a number of bytes equivalent to line width divided by eight. After the scanline data comes the next op_code.

If op_code = 80 (hex) then the data is stored uncompressed. The next byte determines the number of bytes to read straight to the screen memory. These uncompressed bytes follow on immediately. Another new op_code comes after that.

If op_code is neither 0 or 80 (hex), then the data is stored in solid run mode. The value of the op_code itself indicates what to draw to the screen. First, the most-significant bit must be tested. If it's 1, then the byte FF (hex) is used on-screen – if it's 0, then the byte 00 is used. The remaining seven bits of the op_code indicate how many times the FF or 00 byte must be written to the screen. Once this is done, the next byte is a new op_code and the decoding process begins again.

Not exactly simple, but at least now you know!

FORMAT NEEDS YOUR DESKTOP TIPS

When you're making your New Year's resolutions for 1992, don't forget the obligatory one about being nicer to your fellow earth dwellers. And in what better way could you start the year than by sharing any tips, short cuts, undocumented features, bugs, passwords – in short, anything at all you've found that helps you get more from your ST – with well over 70,000 fellow ST enthusiasts? It could possibly win you up to £50. Or, if you have a technical problem or query, we want to hear about that, too – it could win you £20. In 1992, why not make a resolution you can keep early in the year and then forget about with a clear conscience?

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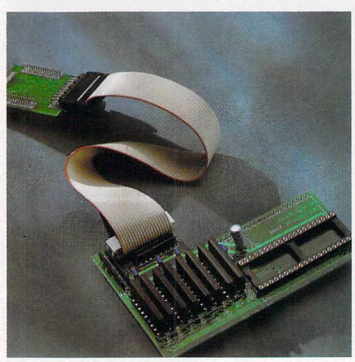
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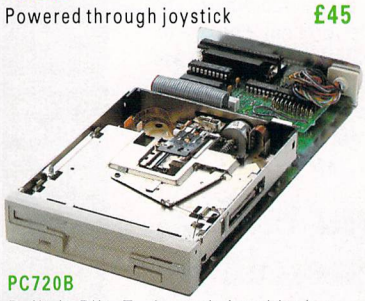
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Assembly pointers

Presenting a new page of assembly language hints and tips from *STF's* application programming expert, Roger Pearson

With Atari's new emphasis on the Family Curriculum Pack, containing five modules of "serious" software and not a single game, and the ST leading the way with MIDI and DTP, the time is right to take a look at the subject of application programming. Application programming covers subjects from spreadsheets to DTP to word processors. In other words – *no games here!*

Assembly language programming is essentially the use of a symbolic code in which each statement represents one instruction corresponding to a machine language statement. Assembly language is very close to the ST's own internal language, so the programs it produces tend to be extremely fast. However, writing a program completely in assembly (unless it's very short) is often impractical and too time-consuming, so we need to use assembly language with BASIC and C, which alone cannot offer us the speed necessary in many circumstances.

To start the ball rolling here's a query from **G Smith** of **Reading** who asks how he can access the ST's ROM, since many programs (not games) have a file with the extension .RSC. What is this file?

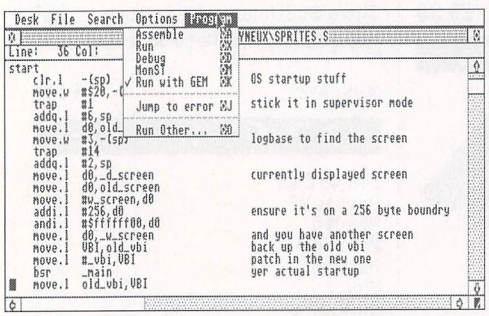
The ROM (read-only memory) contains the code that produces the GEM Desktop and all the disk input and output routines to screen, printer, modem and the MIDI interface. A file with the extension .RSC is a resource file holding the data for such routines.

To use the many subroutines available in the ST's ROM you need to call them via a TRAP. For instance, to send a character to an Epson compatible printer you would need to assemble this:

```
* cprnout
    move #;'A',-(sp)        ; push letter "A" on
                            the stack
    move #5,-(sp)           ; function number 5
    trap #1                 ; call GEMDOS to
                            do it
    addq.l #4,sp            ; correct the stack
* pterm
    move.w #20,-(sp)        ; exit from program
                            gracefully!
    move.w #76,-(sp)        ; function number
    trap #1
```

Note that most assemblers accept `move` to mean `move.w` and `sp` to mean the stack pointer. (For an explanation of any unfamiliar terms, see the jargon busters box below.) Note also that all traps may use registers a0-a3 and d0-d3, so these should be saved prior to the call if you are using them to store any valuable information. In this example you are not, so there is no need to do so. The example above is the normal way in which the ROM can be accessed. This is done by placing (or pushing) the parameters on the stack. Why this way? It was designed this way by the original programmers.

In the `* cprnout` call, the letter "A" is one parameter, the next being the number 5, which informs the ROM to execute the printer subroutine held in the ROM. `TRAP #1` jumps to that routine held in the GEMDOS part of the ROM. The instruction `addq.l` simply adds 4 to the stack pointer to remove the parameters. To send more than one character to the printer you would have to put the above code in a loop or use it as a subroutine. The `pterm` simply terminates the process (program). Leave this out and the program bombs out. Please note that your printer must be connected and on-line for the program to work correctly, and you may have to flush the printer's buffer to get it to print by pressing the on-line button or similar. ***stf***



● To produce executable assembly code, *Devpac 2* from HiSoft is one of the best packages available.

We want *your* hints, tips and queries

Know something – anything – about assembly? Share it with 70,000 others by telling us and you could win yourself £50. If you've got a burning question about assembly you want answered, or even just something small niggling away in the back of your mind, send it in to us. Write to: Assembly Pointers, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

Only published letters get a reply though – personal replies are out of the question.

JARGON BUSTERS

- **`S cprnout /S pterm`: these are` labels for individual routines, designed by you for easy de-bugging later**
- **GEMDOS: part of the ST's operating system**
- **`move.w`: machine code instruction that moves a word value, which is two bytes**
- **`move.l`: machine code instruction that moves "longwords" of four bytes value**
- **Resource Construction Kit: program for constructing resource files: These contain textual and graphical data – for example, icons, menus and dialog boxes**
- **ROM: read only memory**
- **.RSC: resource file extension**
- **Stack: area used to hold program variables during program execution**
- **Stack pointer: marker which points to the most recently stacked variable**
- **Source code: listing of a program before it's compiled (converted to the machine code your ST reads)**
- **TRAP: a call to one of the operating system's built-in routines, like printing a character to screen.**

THE TOOLS OF THE TRADE

What does the enthusiastic newcomer need to start programming the ST in assembler? Besides 1MByte of RAM, quite a lot of gear really, but fortunately the basics are either available cheaply in the Public Domain – contact any PD library in the directory on page 80 – or have been on *STF's* Cover Disk. If you need to order back copies of *STF*, turn to page 142 for details of how to do so.

An Assembler: This is what it's all about! This takes our text or program (to be technically correct, source code) and converts it into an executable program – that is, one that can be run from the GEM Desktop without the presence of the assembler. Excellent choices for the pro and hobbyist alike are *Devpac 2* (DEVelopment PACkage) from HiSoft (£39.95 ☎ 0525 718181.) or the *GFA Assembler* (£49.95 ☎ 0734 794941). *Devpac 3* should be out by the time you read this and is £69.95. But beginners must beware here – the User Guides that come with both packages are not tutorials and feature some heavy-going stuff! For the dabbler or skint of pocket, *Devpac 1* can be found on *STF's* Cover Disk 22. Both the GFA and HiSoft assembler software also come with a debugger – an essential piece of equipment. This is needed to examine the parts of our program that don't work correctly. Both packages also contain text editors so your source code can be entered and edited.

A Resource Construction Kit: This is necessary for the construction of dialog boxes, drop-down menus, and the myriad types of forms used by ST applications. Creating dialog boxes and suchlike by hand in assembler is possible, but it is so much easier with a resource construction kit. It is fairly simple to use one in an assembly language program. *WERCS* (Wimp Environment Resource Construction Set) from HiSoft (£34.95) is one of the best. Kuma also have one – *K-REF* (£41 ☎ 0734 844335) and there is an excellent one in the Public Domain called *MKRSC*, which can do most jobs well. *GFA Basic v3* also has an oldish resource kit bundled with it.

Reference material: The ST is a sophisticated piece of equipment and you should study any information about its internal workings. To gain some experience and programming skills as well as listings of the ROM calls and system variables some books are necessary.

The Compute series of books is excellent, although they are aimed at the intermediate to advanced programmer. They are Compute's *Technical Reference Guides: Vol 2: AES* (£19.95 ISBN: 0-87455-114-5) and *Vol 3: TOS* (£22.95 ISBN: 0-87455-158-4). Many technical reference guides can also be found in the Public Domain. For beginners an ideal choice is *Introducing Atari ST Machine Code* by R Pearson and S Hodgson (ISBN 1-8734223-01-2, £20 from zzSoft ☎ 0422 845528). It includes a disk with an assembler, debugger, a resource construction kit, a listing of the AES, VDI and TOS assembly language calls and so on.

● All these books can be bought from DTBS Bookshops ☎ 0706 524304

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CUMANA CSA 354 DISK DRIVE

Quality external, double sided disk drive. Including PSU and cable.

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Spreadsheet, Presentation Graphics or Communications

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TIMEWORKS DESKTOP PUBLISHER 1 Bargain Bundles

With Cumana CSA 354 disk drive
Plus First Word Plus (no mail-merge)
£124.95
or
With Vidi ST and Vidi Chrome
Plus First Word Plus (no mail merge)
£134.95

NEW RELEASE

TIMEWORKS PUBLISHER 2

(due 21st October, but call before ordering)
Latest version of this ever popular DTP program offering most of the features you'll need and the ease of use you want. Text flow around irregular objects, extra fonts, Protext file import & more over version 1.

OUR PRICE £89.95

COURIER DELIVERY SERVICE

Available on all orders. Prices start from £3.00 - Please ask for details

STF SPECIAL

VENTURE INTO A NEW MUSICAL WORLD

On this special issue of *ST FORMAT*, we're giving away a unique version of Gadgits' *Sequencer One*. This has all the useful MIDI features found in the original *Sequencer One* plus a special sound-chip editor so that it can be used with any ST – even if you don't have any MIDI gear connected. STE owners can hear their musical creations in stereo, thanks to support for the STE's enhanced music capabilities.

To make sure you really get the most out of your full *Sequencer One* package, we're also offering special deals on other associated programs and packages. For instance, the Sample Series gives you a set of samples you can load into *Sequencer One* (or *Sequencer One Plus*). Then there's the Hit Kit, which enables you to start writing your own professional drum tracks and bass lines.

If you can't live without *Sequencer One* (a distinct possibility if you've followed our "Get You Started" supplement) you can invest in Gadgits' latest upgrade – *Sequencer One Plus*. Don't miss these special offers – start making the most of *Sequencer One* now!

Even more great ST offers

SEQUENCER ONE PLUS UPGRADE KIT

GAJITS MUSIC SOFTWARE

Don't miss out on this incredible offer! Upgrade to *Sequencer One Plus* for a host of extra features including the unique Juke Box screen and Gajits' new *Diamond Drag* note editing system. Also includes: improved sample playback, support for the Microdeal range of sample replay hardware, tempo maps, auto count in, MIDI sys ex handling, track solo, extra quantize options, and much more! All of this will sell for £129.95 (RRP). For a short time only, *Sequencer One Plus* is available as an upgrade kit for *Sequencer One* owners (that includes all Cover Disk owners) at just £49.95 (RRP). We're offering it to you at a mere £39.95 – an amazing total saving of £90!

DESCRIPTION: *Sequencer One Plus*

PRICE: £39.95 **ORDER NO: ST395**







SEQUENCER ONE USER KIT

GAJITS MUSIC SOFTWARE

The *Sequencer One* User Kit contains the full program User Guide and a User Registration Card. The User Guide includes a beginner's introduction to sequencing and MIDI, lots of pictures and examples, and an index. The User Registration Card entitles you to free update information and the Gajits telephone Helpline support service. You can benefit from all of this for just £6.95!

DESCRIPTION: *Seq. One User Kit*

PRICE: £6.95 **ORDER NO: ST396**

MUSIC OFFERS

at the best possible prices



SAVE UP TO £25

THE SAMPLE SERIES

GAJITS MUSIC SOFTWARE

A collection of five volumes of digital sound samples for use with *Sequencer One* and *Sequencer One Plus*. Each volume contains up to 80 high quality samples and includes a specially written demo song. Each volume costs just £9.95 (RRP £12.95) and needs 1MByte of memory to run. The complete set can be yours for only £39.95 (RRP £64.75) – saving you nearly £25!

DESCRIPTION: *The Samples Series*

PRICE: £39.95 **ORDER NO: ST397**

SINGLE VOLUMES £9.95 each:

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2. Guitars & Strings	NO: ST397b
3. Brass & Woodwind	NO: ST397c
4. Synth & Vocals	NO: ST397d
5. Piano & Keyboards	NO: ST397e



SAVE £5

THE HIT KIT

GAJITS MUSIC SOFTWARE

The Hit Kit is a music composition system to use with *Sequencer One* and *Sequencer One Plus*. It can help you to create professional sounding drum tracks, bass lines, and other accompaniments in a wide range of musical styles – for example, ballad, blues, disco, house, latin, reggae and techno. Very little previous musical knowledge is needed to obtain frighteningly rapid results! Can you write a number one hit? Here's the kit to help you, only £24.95 (RRP £29.95)!

DESCRIPTION: *The Hit Kit*

PRICE: £24.95 **ORDER NO: ST398**

HOW TO ORDER

- **Just make a note of the name of the package you want to buy and the order number next to it. Then fill in the handy coupon below.**
- **If you wish to order by credit card or have any queries, ring the *ST FORMAT* Mail Order Hotline on:**

0458 74011

ST FORMAT Mail Order

No stamp required if posted in UK, Channel Islands or the Isle of Man

Name

Address

Postcode

Telephone

Description	Price	Order No
TOTAL ORDER		

- For overseas orders call Trevor Witt for prices on **+44 458 74011**

Method of payment – please tick appropriate box

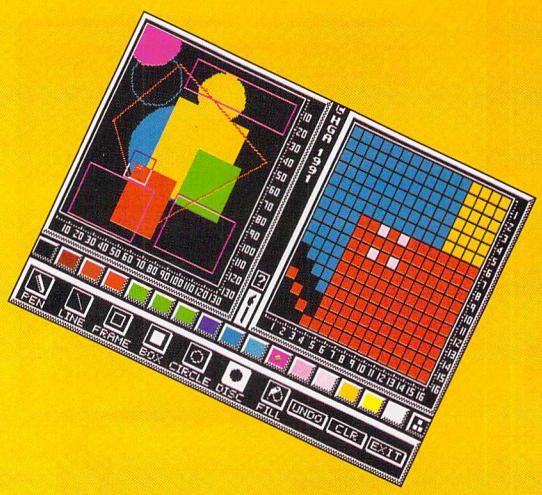
☐ Access ☐ Visa ☐ Cheque ☐ PO

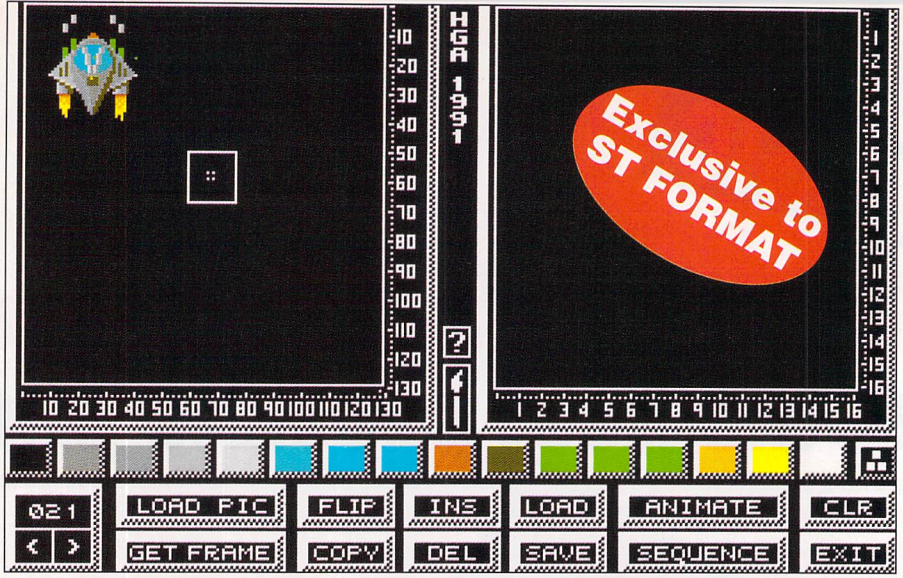
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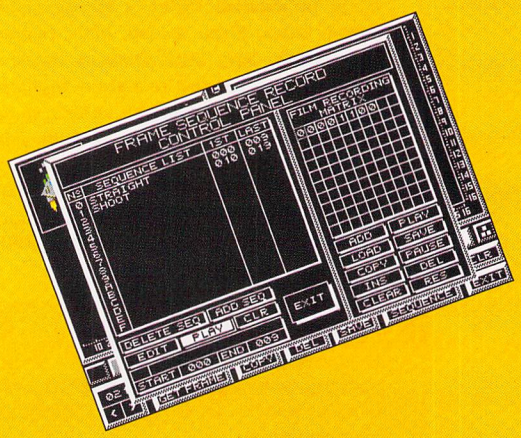
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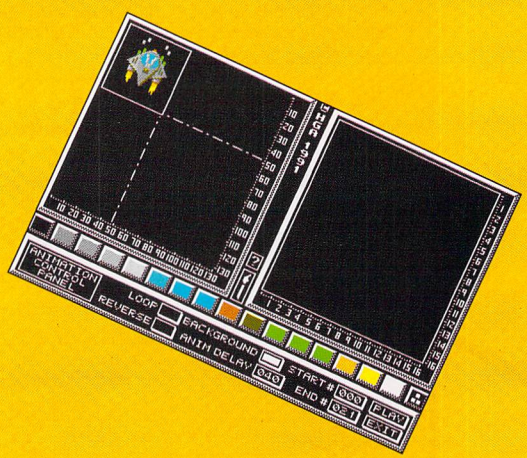
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Get animating with Animaster!





"Potentially the best ST animation package"

– Peter Molyneux, creator of *Populous 2* and *Powermonger*, after using our Cover Disk demo from issue 21

That's what professional game-designer Peter Molyneux said about *Animaster*. You can't overlook praise like that when it comes from the programmer who created hit games like *Populous* and *Powermonger*.

Animaster is *ST FORMAT's* exclusive and unique animation package which enables you to design your own animated sequences. You can create your own sprites in *Animaster*, load in backdrops and then make your characters run, leap or die over the top of them. Save your sequences to disk and then merge them together to build up a short cartoon. Using a *GFA Basic* program supplied as part of *Animaster*, you can even incorporate the sprites into your own BASIC programs.

A taster of *Animaster* appeared on Cover Disk 21. The full version of the program enables you to create and edit your sprites using a range of drawing tools. You can then test them over the top of a background to see how they look. What's more, *Animaster* even makes use of the enhanced features of the STE, offering you a choice of 16 colours at a time from a staggering palette of 4,096.

Using *Animaster's* powerful sequence editing features, you can construct a short "film." For example, define a sequence showing a little man running, then another showing him leaping and yet another showing him bending down and touching his toes. Using a special recording matrix, you could then define a "film" which shows the sprite running for a while, stopping to touch his toes, running again and then leaping into the air. Imagine the possibilities for a Superman sprite or a colourful Mickey Mouse!

ANIMASTER PRIORITY ORDER FORM

☐ Yes, I would like to order .....copies of *Animaster* at the special price of £14.95 (ref: ST367)

Note: *Animaster* is only available through *ST FORMAT*

Name

Address

Postcode

Telephone

Method of payment: (please tick) ☐ Access ☐ Visa ☐ Cheque ☐ PO

Credit Card number

Expiry date

Please make all cheques payable in pounds sterling to Future Publishing Limited.

SEND THIS FORM TO: *ST FORMAT Animaster offer*, The Old Barn, Freepost, Somerton, Somerset, TA11 7BR (No stamp needed if posted in UK)

ANIMASTER'S FEATURES

- Runs on any ST or STE, with support for the STE's extra palette of 4,096 colours
- Automatic creation of a special mask to use your sprites in *GFA Basic*
- Single or multi-frame "grabbing" from pictures created in a paint package
- Eight times magnification for close-up editing of your sprites
- Extensive sprite drawing and editing features
- Comprehensive testing features
- A unique sequencer enables you to define up to 16 animation sequences which can then be animated over a blank screen or any picture of your choice
- A "Film Matrix Recorder" enables you to record, edit and save a sequence file to disk

A ST-IC with no point

Having a remote control unit for your TV, your CD player, your amplifier, your video and even your lights is all well and good, but just where are you supposed to put the blessed things? Ed Ricketts checks out a real-life version of that old joke, a remote control for your remote control

ST-IC

MACHINE: ALL STs
PRICE: £39.95
FROM: ROMULUS DATA SYSTEMS
CONTACT: 2 DOWNS GROVE, SOUTHVIEW PARK, BASILDON, ESSEX SS16 4QL

Technology is wonderful, isn't it? There you are, sat in your room, with the controls to virtually every creature comfort you own – TV, video, CD player – at the tips of your fingers, and all thanks to the wonders of the remote control unit. But there is one small problem – you soon have so many different remote control units (RCUs) cluttering up your space, there's no room for the things they're supposed to control.

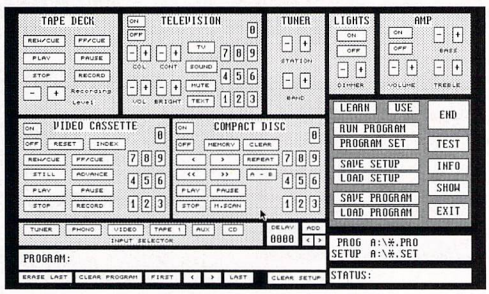
This may be something of an exaggeration, but Romulus Data Systems obviously thought it was a big enough problem for them to invent the ST-IC, or the ST Infrared Controller. Simply put, the ST-IC enables you to use your ST as one huge universal RCU. You "teach" it all the commands from your various RCUs and it stores them. All their functions are then accessible from a single screen.

The ST-IC comes in three parts. First, you plug a small adaptor into your printer port. This adaptor has a through-port and a switch that selects the ST-IC or the printer, so that you can still have your printer plugged in while using ST-IC. The main ST-IC unit plugs into this adaptor via a lead with a standard 3.5mm jack. Another lead from the ST-IC connects to the input from the 9v mains power supply. The ST-IC itself is a small black box with a familiar infrared window on the front and an on/off switch with indicator LED at the side. Both the adaptor and main unit are solidly built, and you're even provided with a spare fuse for the ST-IC.

Once everything is connected, you can boot up your ST and turn on the ST-IC. The software runs in medium and high res. Although the disk isn't protected, it can't be properly installed on a hard drive because the software still accesses drive A for its resource file – an annoying fault.

Once loaded, the program presents you with a single messy screen with sections for a tape deck, TV, tuner, lights, amplifier, video, CD player and input selector for your amp. Everything is done from this one screen.

Click on Learn and the program prompts you to place the ST-IC and your RCU facing each other. Click on a button you want to program – let's say the off switch for your TV. You then have 15 seconds to press the corresponding button on your RCU before the software times out. If the ST-IC reads a signal from the RCU, it tells you and you can go on to teach it other buttons. If not, you have to adjust the position



● The main, and indeed only, ST-IC control screen. Click on Learn to teach it your controls and Use to use them. It couldn't be simpler – except it could. Why not just pick up the RCU and use that?



● The ST Infrared Controller is essentially a remote control unit designed to enable you to control all the functions of your creature comforts – TV, video and hi-fi – from a single screen on your ST.

of the ST-IC and RCU until something is read by the former. Even then it may not be the correct signal and fiddling may be necessary to get the right position. Certain buttons on some RCUs don't seem to register at all.

When you've programmed all the buttons you want, click on End and then Use. Using the ST-IC is simply a matter of clicking the on-screen buttons that it has been taught. ST-IC then sends out the corresponding infrared code to the appropriate equipment from its own IR transmitter.

The instructions recommend you place the ST-IC in the corner of the room so that it's facing all your equipment at once. In practice, this isn't feasible for two reasons. First, the lead connecting the ST-IC to the adaptor isn't anywhere near long enough for you to move the ST-IC away from your ST. Secondly, it's very difficult to find a suitable place that faces the IR receivers of all the recognised equipment.

As well as simple commands you can set up "programs" within ST-IC. For example, if your CD player doesn't enable you to play tracks in a certain order, you could program ST-IC with your favourites and get it to control the CD player for you.

Once in programming mode, commands are stored in a long list rather than being executed immediately. To play tracks 3, 5 and 1, you just click on those numbers in the CD Player section, assuming they've been programmed. However, you must put a delay between the commands, because otherwise ST-IC sends all three almost simultaneously and the CD player only registers the first. To set the delay properly you have to know the exact running time of each track, so that just as one has finished ST-IC sends the command to play the next. This programming feature doesn't have to be confined to a CD player. The instructions suggest using it to program the playback of a video recorder, or to select pages from Teletext.

The ST-IC does work, most of the time. You may experience some problems teaching it your RCU commands, but once you've waded through the initial setting-up and saved everything to disk it's simplicity itself to use. But would you want to use it? Is it really easier to boot your ST, load the software and click buttons on the screen than it is to reach for a remote control?

Frankly, no, it isn't. The only advantage the ST-IC offers over an RCU is the programming facility, but most decent CD players and videos nowadays have this built-in anyway, and usually in an easier-to-use form. You can't alter ST-IC's on-screen buttons or make any of your own (though Romulus say this is coming in future software upgrades), so you may not be able to use some of the more exotic RCU features. And how many people have remote control lights anyway?

If you really do need an all-in-one RCU you'd be better off getting one of those Universal models from somewhere like Tandy. They work in the same way, they're more convenient and they're even cheaper. At the moment, ST-IC is just a solution looking for a problem. ***stf***

ST-IC

£39.95 Romulus Data Systems

FEATURES: 66%
Offers little more than a standard RCU gives you.

SPEED: 83%
Screen updates are fast and infra red output actually has to be slowed down.

EASE OF USE: 88%
Piece of cake – point'n'click all the way. Screen layout is a bit crowded and inconsistent.

THE COMPETITION
There isn't anything else like this for the ST. However, there are several models of "Universal" RCUs around which are more convenient, cheaper and offer greater flexibility.

***STF* RATING: 61%**
It works (mostly), it's easy to use, and it's almost completely redundant.

FOR THE ATARI ST

NEW IMPROVED

P.F.M PLUS £$£ £$

£39.95

PERSONAL FINANCE MANAGER

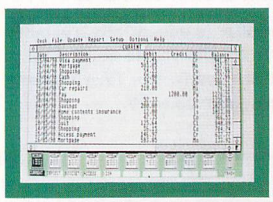


If you run a personal bank account and have an Atari ST then you need "PFM PLUS"

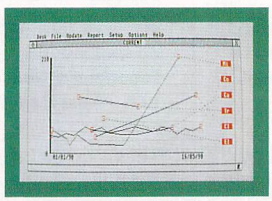
AS EASY TO USE AS A CALCULATOR
PFM PLUS makes full use of ST's Gem interface, if you need to amend or update an entry or Standing order simply click on it. Your screen looks just like a bank statement!

STANDING ORDERS & DIRECT DEBITS EATEN ALIVE
PFM PLUS handles Credit and Debit - Weekly, 4 Weekly Monthly, Quarterly, Yearly and even complicated regular payments like 12 payments of £52.99 followed by one of £12.50, PFM will check the date and automatically insert standing orders as they become due.

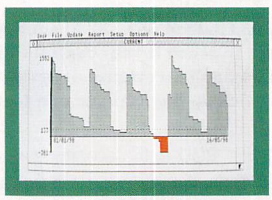
BUDGET WITH EASE, AT A CLICK OF A MOUSE.
If you're the type that likes to look ahead then PFM allows you to set budgets for both expenditure and income. Up to 28 budgets can be set over a year, a quarter or a month and then displayed either in figures or as a bar graph for a given period. Income/Expenditure for these budgets can also be shown as a pie chart so you can tell at a glance where your money's gone. PFM also allows you to display or print your budget groups selectively so you can see your expenditure quickly and easily.



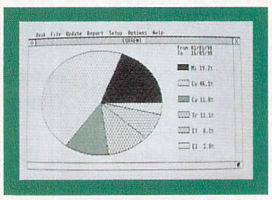
MAIN ACCOUNT SCREEN



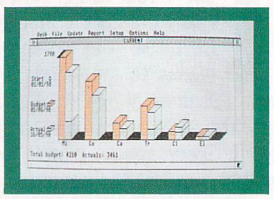
TREND GRAPH



BALANCE PLOT GRAPH



BUDGET PIE CHART



BUDGET COMPARISION BAR GRAPH

PERSONAL FINANCE PROGRAM BY PETER VEALE

Based on the original highly successful Personal Finance Manager, PFM Plus from Michtron is packed with additional features, improvements and enhancements all designed to give you better control over your money.Take a look at this comprehensive specification.

Multiple Accounts
Each file can hold up to ten accounts, each with its own entries and standing orders. Automatic posting of entries between accounts is under full control of the user.

Automatic Standing Orders
Standing orders can be set up for each separate account. Start and end dates can be specified, with payment periods of weekly, 4 weekly, monthly, quarterly, 6 monthly, yearly, or just a single payment.

Entry Posting
Transactions made on one account can be automatically 'posted' to a second account. PFM Plus displays full details of entry sources and destinations. This feature also applies to standing orders.

Selectable Columns
Up to eight different fields available for account displays. The choice of columns and the order in which they appear can be set by the user. A separate choice is available for statement printouts.

Multiple Views
Up to 5 views of any one window can be displayed at the same time. This allows different parts of the account to be visible through independent scrolling, or copies of graphs to be displayed covering different time periods. A total of 67 windows are defined.

Account Files
Each file contains accounts and standing order entries, budget details and full information on the sizes and positions of all account windows

GEM
Full GEM interface operating in medium resolution colour and high resolution monochrome.

Auto Balance
Automatic account balancing against statement. Facility to continue search for further balance matches.

Upgrading from PFM
PFM Plus includes a utility to convert original PFM files to the new format, so you need not lose valuable data by upgrading

Printouts
On-screen displays and printouts for budget comparison tables and account summaries , in addition to the normal statement and standing order printouts.

Printer Formatting
Extensive control over the format of printing statements allowing alternative character pitches, bold underlined and italics printing. Printer control codes defined in separate configuration file.

User Options
Many configuration options can be controlled by the user. Examples include entry defaults, display column order, initial path and data file names. All options including desktop icon positions may be saved to disk.

Desktop
PFM Plus uses its own desktop from which accounts may be selected. The desktop also includes an analog clock and a four function calculator. The calculator can be used even if it is not in the top window. Desktop icons can be re-arranged as required.

Graphs
Four different types of graph plot are available. A balance plot, a pie chart showing selected budget categories, a budget comparison bar chart and a trend graph. The trend graph can be used to show long term increases or decreases in your bills. All graphs auto-scale to fit window size.

Search
Account search facility using search mask with wildcards

Key Short-Cuts
Most mouse and menu operations can also be selected by a key stroke.

Help
On-line help dialogs cover a range of key topics.

UPGRADE FOR £12

If you already own Personal Finance Manager and want to Upgrade to PFM PLUS simply return your original disk with £12 for a full Copy of PFM PLUS

IMPROVED FEATURES INCLUDE

- ★ **Handles multiple account with Auto transfer**
- ★ **Full printer report formatting**
- ★ **Graph of Trend Plotting**
- ★ **Desktop Calculator**
- ★ **Increased Budget handling**
- ★ **Extensive user configurable options**

BALANCING WITH YOUR BANK ACCOUNT IS NO LONGER A JUGGLING ACT
When you get your bank account statement or a balance from an autobank machine you can confirm it with PFM quickly and easily. Simply select PFM's unique "Auto Balance" option and type in the balance as given by the bank and PFM will attempt to balance and highlight entries that have not yet been processed through the bank.

OTHER FEATURES

* The number of entries is limited only by memory size
* You define the file size
* Old entries are automatically deleted
* Automatically places entries in date order
* European or U.S.A. date formats
* Balance of account graph
* Moveable and re-sizeable windows
* Run multiple bank accounts by simply using different file names. Multi-Tasking allows Multi-Account access.
* Facility to check off items against statements
* Locates cheques written months ago in seconds
* Selective print features for dates/statements/standing orders and budgets.

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£40.95 (incl P&P).

Please send me **PFM PLUS** at £40.95 (inc P&P)
☐ Cheque enclosed made payable to MICHTRON
☐ Please Debit my Credit Card Account:
Number. . . . . .Expiry Date. . . . . .
Name. . . . . .
Address. . . . . .
. . . . . .
. . . . . .Signed.....

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SEIKOSHA DOT MATRIX PRINTERS

Silica Systems are pleased to recommend Seikosha printers to you at ***NEW LOW PROMOTIONAL PRICES***. The Seikosha range is built to the highest standards, by a company that is used to manufacturing high quality precision products. In fact, you may be wearing one of these products on your wrist as Seikosha are part of the massive Seiko/Epson group (with a turnover of £6 billion and 18,000 staff!).

When you buy a Seikosha printer from Silica, we will give you a Silica PRINTER STARTER KIT (worth £25 +VAT= £29.38) FREE OF CHARGE, to make sure you get off to a flying start with your new printer. For further information on the Seikosha range, complete and return the coupon below. Or, if you can't wait to get your hands on a new low priced Seikosha printer, telephone our mail order hotline, 081-309 1111 to place your order now.

- **FREE DELIVERY** Next day - anywhere in the UK mainland
- **FREE STARTER KIT** Worth £29.38 with every Seikosha printer.
- **FREE HELPLINE** Technical helpline during office hours.
- **1 YEAR WARRANTY** With every Seikosha printer from Silica.

Each print example was produced by the printer it is shown with. Printer speeds are quoted as follows: SD = Superdraft 15cpi, D = Draft 12cpi, NLQ = Near Letter Quality 12cpi, LQ = Letter Quality 12cpi.

9-PIN PRINTER



192 CPS **80** COLUMN

- *Seikosha SP-1900AI - 9 pin - 80 col*
- *192cps Draft, 48cps NLQ*
- *1K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 144×72dpi*
- *Epson and IBM Emulation*
- *Paper Parking*
- *FREE Silica Printer Starter Kit*

SP-1900AI RRP £179
STARTER KIT £25
TOTAL RRP: £204
SAVING: £105
SILICA PRICE *(EXC VAT):* **£99**

£99
+VAT= £116.33 Ref: PRI 8190

9-PIN PRINTERS



192 CPS **80** COLUMN

- *Seikosha SP-2000AI - 9 pin - 80 col*
- *192cps Draft, 48cps NLQ*
- *21K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 144×72dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder Unit*
- *FREE Silica Printer Starter Kit*

RRP: £199
STARTER KIT £25
TOTAL RRP: £224
SAVING: £95
SILICA PRICE: £129

£129
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240 CPS **136** COLUMN

- *Seikosha SP-2415AI - 9 pin - 136 col*
- *300cps SD, 240cps Draft, 50cps NLQ*
- *17.5K Printer Buffer + 5 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×144dpi*
- *Epson and IBM Emulation*
- *Superior Paper Handling*
- *FREE Silica Printer Starter Kit*

RRP: £320
STARTER KIT £25
TOTAL RRP: £345
SAVING: £136
SILICA PRICE: £209

£209
+VAT=£245.58 ref: PRI 8215

24-PIN PRINTERS



240 CPS **80** COLUMN

- *Seikosha SL-92AI - 24 pin - 80 col*
- *240cps Draft, 80cps LQ*
- *44K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson Emulation*
- *Optional Font ROM - 7 Fonts*
- *FREE Silica Printer Starter Kit*

RRP: £335
STARTER KIT £25
TOTAL RRP: £360
SAVING: £171
SILICA PRICE: £189

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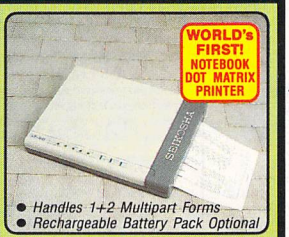
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324 CPS **80** COLUMN

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- *5K Printer Buffer + 9 Fonts*
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- *462cps Draft, 106cps NLQ*
- *18K Printer Buffer*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×144dpi*
- *Epson and IBM Emulation*
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520 CPS **136** COLUMN

- *Seikosha BP-5780AI - 18 pin - 136 col*
- *780cps SD, 520cps Draft, 130cps NLQ*
- *20K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *Handles 1+6 Multipart Forms*
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800 CPS **136** COLUMN

- *Seikosha SBP-10AI - 18 pin - 136 col*
- *800cps Draft, 200cps NLQ*
- *64K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
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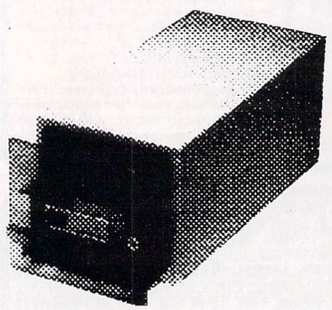
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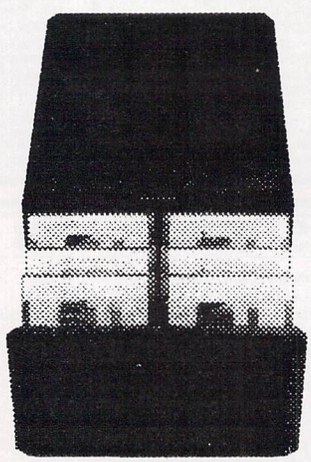
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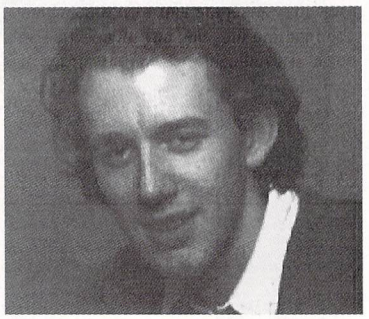
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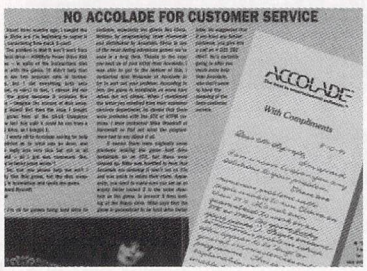
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Feedback



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NO ACCOLADE FOR CUSTOMER SERVICE (CONTINUED)

Alan Welsman: I am writing in reply to the article "No Accolade For Customer Service" which appeared in the letters pages of *ST FORMAT*, issue 29.

We were obviously quite shocked to see this piece, but more disappointed that we appear to have genuinely failed to deliver a good support service to our customers. Our Customer Services Manager has written to Richard Rycraft to apologise for the confusion and has offered him a complimentary copy of *Elvira 2* (released January '92) by way of compensation.

The confusion stems from the fact that we were still referring to old information from the US which had not been updated since the initial problems of installation were cleared up. We do pride ourselves on our ability to provide high quality products backed up with good customer support services, and I assure you that this situation was a one-off.

I am slightly concerned, however, that the article's final statement implied that we were dismissive of our customers. *Elvira* on the ST has sold several thousand copies in the UK and is still selling consistent quantities each month. The many customer enquiries handled by this office have been dealt with effectively and always courteously.

Alan Welsman
Accolade

stf: *ST FORMAT rides to the rescue again! I'm glad to hear that you've sorted this problem out.*

If any other readers feel they can't get satisfaction from the software houses, drop us a line and we'll endeavour to sort it out. at this time of year it's especially important that software houses give the best possible support to new ST owners. Documentation, like the letter provided by Richard Rycraft, is particularly useful.

EASY ENQUIRIES

I have a few simple questions for you.

1. How do you load new fonts into *Degas Elite?*
2. What printer driver is needed to print colour pictures from *Degas Elite* to a Star LC200 colour printer?
3. The manual for the LC200 printer gives control codes for certain functions in three forms – ASCII, Decimal, Hexadecimal. How do I input these into the printer?

Steven Dolman
Melksham

stf: *1. Unfortunately* Degas Elite *uses GDOS fonts. GDOS (Graphic Device Operating System) is the part of the operating system that Atari somehow managed to leave out of the ST's ROM, and now it's only given away with programs that require it. It's just a small program called GDOS.PRG which you put into the AUTO folder. However, you need another text file in the root directory called ASSIGN.SYS which tells GDOS which fonts to load on boot-up and which drivers to use for the printer, the screen and other output devices. The format of this file is quite complex – look out for a fuller explanation in a future Desktop.*

2. The major PD libraries, such as Goodman International, the South West Software Library and Floppyshop, have whole disks dedicated to collections of printer drivers for Degas Elite. *Check the directory on page 80 for phone numbers, or write to them (enclose an SAE).*

3. Your best bet is to use a programming language such as GFA Basic *to output the decimal codes with an instruction like PRINT#2,CHR$(27). All this is doing is sending the ASCII character 27 to the printer port. The specific commands you use depends on the differences between programming languages, but most high-level languages support direct-to-printer output in this way.*

SEARCHING FOR TOS

In issue 20 of *ST FORMAT*, you mentioned a PD program beta test version of *TOS 1.4*.

Since then, I have made several enquiries from suppliers of PD programs but to no avail. Can you please tell me where I can obtain this particular program?

I need it because I am given to understand that it is no longer possible to obtain TOS upgrade ROMs. I have checked this out with Ladbroke and Silica Shop and they confirm that they are no longer available. If you know differently I would be very grateful to hear from you. I have an 1040 STFM with a TOS of 1.02.

P B Reade
Cardiff

stf: *In fact, PB, the Beta test version of TOS 1.4 was never legitimately available in the Public Domain. Atari released it to certain developers while it was undergoing final tests, but never had any plans to distribute the disk version. It did appear on a few naughty BBSs, but most versions have now been removed.*

However, don't lose hope. Stocks of TOS 1.4 are very low at the moment, according to Atari's resident technical wizard, Alan Ross. It's a temporary situation that should have cleared itself by the time your read this. If all else fails, phone Atari's Spares Department on ☎ 0753 533344 and order one from them.

Incidentally, Atari are currently going wild over their latest implementations of TOS. They've just announced that TOS 2.06 and TOS 3.06 are ready for the Mega STE and TT respectively. Apparently, the all-singing 2.06 can be fitted to old-style STEs to bring them bang up to date. Alan reckons that a German company is working on a special board that'll enable you to fit 2.06 to all STFMs too. Watch this space...

GAME TO FAME

I am currently making an ST game. I've designed it, and I'm using *STOS* to create it. However, I would like to know what to do next: should I give the design or idea to a software house (Ocean) or give them the finished game? Or should I give my friends a copy and hope it circulates that way?

Nicholas Roberts
Essex

stf: *Give a copy to your friends by all means, but this isn't likely to bring you nationwide fame. If you're really serious about your game, you should seek legal advice before sending it to any software house. It's no secret that some unscrupulous publishers have made large amounts of money from a game idea and paid the first-time programmer very little in the way of royalties, simply because the programmer really believes he's getting a good deal.*

If you're going to approach a soft-

SURPRISE! SURPRISE! *STF* TO THE RESCUE

Having searched for my family for 27 years I finally found a brother I never knew I had. He lives in California and I live in Northern Ireland and we both have computers. He has an Apple Macintosh and I have an ST. I also have a Comms Prog called *Vanterm* from one of your earlier Cover Disks. When I phone his computer it always comes up "No Carrier." Where I am going wrong?

J E McKillen
Co Down Northern Ireland

stf: 27 years tracking down your family and then you can't speak to them because your ST won't work! A touch of the Mr Bean there, I think.

There are more potential problems in the area of comms than in virtually any other field on the ST. First, when you phone your brother's modem, you shold ensure that it's set up to receive incoming calls. The Mac should be running comms software that handles VT52 terminal emulation (as Vanterm does). Finally, you should ensure that both you and your brother are communicating at the same baud rate and with the same protocol – that is, the same number of stop bits, the same parity and the same number of data bits. So, if you're set up at 2400 baud, eight data bits, no parity and one stop bit, your brother should be, too. You should have no problem communicating with a Mac using Vanterm. UK phones work on a CCITT standard while the American phone system uses a Bell network. Check your modem can communicate with this standard. Why not join a network like CompuServe? This acts as a go-between for you and your brother and provides you with a mailbox to leave messages. With a UK node, CompuServe is also cheaper to use. Give CompuServe a call free on ☎ 0272 255111.

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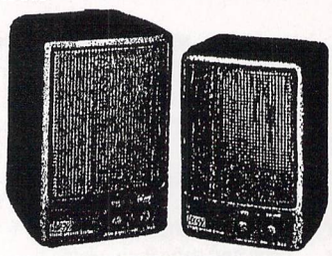
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ware house, make sure you have the information they want ready and waiting. If the game's not finished, provide mock-up screens and storyboards showing the gameplay, and give a clear indication of the things like sound effects and music which may need to be created by another of the software house's developers. Think of your presentation as if it were a business plan or an application for a bank loan and you'll come over more professionally.

Another factor which concerns software houses is convertability. They'll want to know if your idea can be made to work on all computers, not just the ST. The more portable code or source documentation you can provide, the better. If you can do the conversions yourself (and you need a good knowledge of Amiga games-machines, PC-contemptibles and the ancient 8-bits to do this), then give the software house a clear indication of how long it may take.

You can protect your interests a bit by asking the software house to sign a non-disclosure agreement (NDA) – you need a solictor to draft a really watertight one. This should stop publishers ripping off your idea and rewriting it themselves. But beware – sometimes an NDA can bring your interview to a swift close. If it does, leave and try elsewhere.

I'm planning a big feature on what you can do with game design in a forthcoming issue, so keep reading.

HIGH RESOLUTION TV

I sent off to Moriarty Software for info about their *Monulator* to give you a high-res display on an ordinary TV. I got back a three page document about it and on the front page is the following message: *ST FORMAT* rating: 87%.

Since I have every *ST FORMAT* mag and disk, (without any binders! Hint! Hint!) in my collection I thought it would be easy to find its review. Wrong, I can't find it! Did you review it? Help!

S J Churchill
Dorset

stf: *We reviewed* Monulator *in our Buyers' guide supplement accompanying the October issue. It is a fast and useful mono emulator which enables you to show high resolution programs on any TV or monitor screen. Remember, though, mono emulators can never give you the same display quality as a high resolution screen. They also work out much slower. If you intend to make regular use of mono packages, then invest in a high res monitor. Silica sell a monitor for just £129.99. Call them on ☎ 081 709 1111.*

If it's binders you're after, have a look at page 118 for details of how to order the all-new bigger, better and brighter model. (Hint hint.)

CLASSIFIED ST

Adrian Garton, Managing Director, Coragen Corporation: Atari user groups are far too few and far between, being taken over by Public Domain, Mail Order, Bulletin Boards and the like. There are no really well known groups in the UK. If such an idea can take off so well in the States, on the continent and elsewhere, I feel we must be doing something wrong.

I have taken the idea of the general "user-group" and twisted it slightly. I have come up with "Classified ST," a "swap, buy or chat" group. The idea is that each new member is given a short questionnaire to fill out. The information from these forms is then downloaded to our central database. Then, if one member wishes to find a person who may have the answers to a certain question, and we have "that person" on file, we put the two together. In the same way second-hand sales can be achieved: you want to sell for £30 – £40, and he wants to buy for the same amount. The buyer is asked if he is interested, and the seller is asked if he wants to give it a go – swaps can also be achieved in exactly the same way. In this way, we hope to offer a far greater service, for the "standard" annual membership fee of £5. With no sales commission charge, no hidden costs, and no rules to abide by, Classified ST could become one of the biggest and best user-groups ever.

Nothing along those lines is currently in existence, and as far as I know, nothing even similar has even been attempted. Coragen are not in this for the sheer profit of the thing, either. I seriously believe that a group such as this would solve one heck of a lot of grief at the end of the day. Add all that to a monthly newsletter to all members, terrific competitions, Coragen Corporation goods-discounts and more, you can, I think, see that we are offering one heck of a lot for not a lot. All I want to know is: anyone interested? If so, send a stamp and your address on a slip of paper (phone number if you have one), and state your main interest on the ST/STE. We'll send you all you need to know. The address is Classified ST Club, The Coragen Corporation – MK, 59 Tattenhoe Lane, Bletchley, Milton Keynes, Bucks MK3 7AD. I look forward to all replies.

Adrian S Garton
Managing Director
Coragen Corporation

stf: *It's encouraging to hear that you're trying to offer a unique service, Adrian. So many people think they can set up a PD library or a user group and offer the same service as everyone else. Why not come up with a modem line to enable people to leave messages for each other? Or how about an account on Cix. This electronic conferencing board can reserve a section for your User Group. People could then call your group and leave messages or chat to each other through their ST. Give Cix a call on ☎ 081 390 8446.*

One of the biggest problems establishing a user group is in getting people to talk to each other. Why not produce a regular newsletter (it need only be one sheet of A4), giving your members a chance to write letters which can address the entire group?

Keep us informed on how your

ST OWNERS GO MUTE

In Keith Harris' letter in the last issue, you wanted a list of ST user groups. Here is the most complete list that I can obtain. I have included all the groups I could find that were relevant to the ST. There aren't many, are there?

BaPAUG – Colin Hunt, BaPAUG, Wimborne Road, Oakdale, Dorset, BH15 3EF (This club caters for all Atari machines).

ST PC Emulator Support Club – SAE to 153 Parrock Street, Gravesend, Kent, DA12 1ER.

Atari Buy and Sell Society ☎ 0495 272092.

The ST Club – Paul Glover, The ST Club, 9 Sutton Place, 49 Stoney Stret, Nottingham, NG1 1LX. ☎ 0602 410241.

Atari ST Users Association (ASTUA), 18 Poplar Close, Biggleswade, Beds.

Cheshire 16-bit Users Club – meets each Friday night at Radley Common Community Centre, off Poplars Avenue, Orford, Warrington. Admission £1.

PageStream Users Group (for all PageStream users on ST/Amiga) – SAE to PUG, 70 Offerton Lane, Stockport, SK2 5BS.

ST Users Group – SAE to Ben Dobson, ST User Group, 1 Ryedale Way, Selby, North Yorkshire.

Jon Haworth
London

stf: ***Nice one, Jon! It may be a small list, but it's perfectly formed. The fact that there are so few user groups around indicates that ST owners just don't want to get together and exchange information. Perhaps ST FORMAT gives them all the information they need. Write and let me know if you think differently. If you run a user group for ST owners and it's not on this list, then drop us a line and tell us.***

DANGER – DON'T DO IT YOURSELF!

I have two monitors in my system – colour and monochrome – and I'm tired of switching leads, to say nothing of the delay while I wait for my ST to reboot.

Can you supply a diagram for a do-it-yourself monitor switch box? Presumably, you wouldn't need to switch all 13 leads! If you simply unplug one monitor and plug in the other while your ST is powered up, a reboot occurs. I've been told this is hard on the video shifter chip. True or not? Is software available to change resolutions without rebooting, or is this impossible? Can you switch resolutions on a multi-sync monitor without rebooting?

Steve Dickerson
Bangkok,
Thailand

stf: ***You're not alone, Steve. Everyone with a mono and a colour monitor suffers the same problem, but it's only partly curable. We haven't printed a monitor switch-over box diagram because there's a real danger of damage if you mess it up.***

You're right, you don't need to switch all 13 leads – the colour video signals go to the colour monitor and the monochrome one goes to the high resolution monitor. The trouble lies with the "monochrome detect" signal on the ST. If this signal is low (zero volts), then the ST assumes it's in mono mode and tries to synchronise at 35.7 kHz raster-line speed. This is far beyond the capabilities of any normal colour monitor (they "sync in" at 15.7 kHz) and it may even damage them. For this reason, you need to be very careful which signals are connected when you switch modes.

Another problem lies with the ST's internals. Whenever the resolution gets changed, the operating system has to reboot in order to reorganise the memory layout and inform the ST's video shifter chip of the new sync rate. Even with a monitor switch-box, changing resolution still forces a hard reset. You might be able to save time on lead-swapping, but the resets are here to stay, unfortunately. Silica sell such a switchbox for £12.99. Give them a call on ☎ 081 709 1111.

A final note – never, ever, plug or unplug connections to your ST with the power on. Connectors don't always make proper contact until they are fully inserted – and if they're live (even at only five volts), you may get power on some pins and not others. This can totally ruin DMA chips, RS232 ports, MIDI ports, video shifters and even power supplies (and has been demonstrated on the poor STs here at STF when the advertising people try and use them without telling us!). So ensure you turn the power off first – always.

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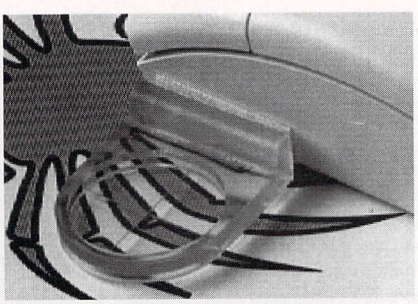
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THINGS YOU CAN DO WITH YOUR TV/MONITOR (OR NOT)

I have read with interest your articles on hardware add-ons, especially monitors. Unfortunately, you haven't covered the TV/Monitor range. Are they as good as the CM8833 2 for games, WP and DTP? Is the TV/Monitor worth the extra £30 above the CM8833 2?

Graham Freeman
Bakewell
Derbyshire

stf: *It depends on how much you want from a TV. The TV part of a TV/monitor can never offer as many features as a "real" television – you're not likely to be able to buy a NICAM stereo 26 inch FST black screen TV/monitor with Fastext, for instance. The Philips 15-inch TV/monitor from Evesham Micros (☎ 0386 765500) does offer Teletext, a dark glass screen and three-way speaker output. For "casual" viewing, there's no reason why you shouldn't kill two birds with one stone and get a combined unit.*

Word processing and desktop publishing are possible on a medium res monitor but not really recommended. A high res monitor (the standard Atari SM124 is the best around) should be your first choice for this.

Strangely coincidental, but Atari's brand new colour monitor is actually a re-badged Philips CM8833. The old SC1224 has now been dropped because it was (a) too dark and (b) couldn't handle the STE's enhanced stereo output.

GOOD ON YOU, LAPD!

It's not very often I put pen to paper, but I really feel I should commend a PD company by the name of LAPD for their service.

I ordered some disks from this company, and I received the disks by first class post the day after next. So, I hear, what's unique about that?

Well, I tested the disks and found that two of the disks were not working on my ST (the mouse pointer would not move). I sent them back, and the day after, a gentleman from LAPD phoned me to tell me the disks were working. We sussed it was because of the operating system. I then and there ordered two further disks, plus another order I had sent, which they have already posted.

Well done, LAPD. Other PD libraries please take note.

Tony Hill
Wakefield

stf: *It's horribly nice people like LAPD that give PD companies a good name. I don't know, it's not like the old days when you had to wait ten weeks etc etc and so on.*

WHIRLWIND FREE-BALLING

I am writing to thank and congratulate Archer Maclean for his brilliant *Jimmy White's Whirlwind Snooker*. This game is a real classic and is currently number one in my software collection. The graphics are amazing and the odd sampled sound effects add a real atmosphere. After playing this game, you realise the incredible research Archer has done to make this game a winner, although I'm sorry to say there is one slight fault.

In the rules of snooker, when a player is awarded a freeball, he may not snooker his opponent behind the nominated ball, since this would be a foul, but he can do so behind any other ball provided he hits the nominated ball first.

In *Jimmy White's Whirlwind Snooker* a foul is awarded if you snooker your opponent behind any ball. Sorry, Archer. Will there be an update or sequel to this fantastic game?

Mike Street
Southampton

stf: *We phoned Archer (who's been very busy lately promoting* JWWS, *dining with the snooker legend himself, and appearing on TV) and he had this to say: "Ah, yes. There were a few problems with the freeball. A freeball is awarded when you can't hit both sides of a ball because the path to it is blocked. You think you can see both sides, but only your ST knows for sure. It is a grey area – even the rules of freeballs change. The Snooker Federation uses slightly different rules to the ones printed in the* JWWS *manual."*

Sadly, no update to JWWS *is likely but Archer admits he's about to start work on* Snooker 2, *which should be available around September 1992. "There are still loads of things I can do with it – you wouldn't believe how many things..." he said. Roll on September, eh?*

SAMPLING EDUCATION

I am writing my GCSE project in *GFA Basic v2*. I would like to be able to have sampled sounds and good quality music in various parts, but the music must not interrupt the actual program. I have heard that *TCB Tracker* can do this but I wasn't sure whether it can also actually sample sounds and speech. Also, the final version will be compiled using the v2 compiler. Will this affect the samples and the music?

R Williams
Batley

stf: *Putting samples into* GFA Basic *sounds more difficult than it really is. The simplest way is to make your program read the sample data into one huge array. It can then just output the data under your control, so you can keep clashes and interruptions down to a minimum.*

TCB Tracker has excellent sample sequencing functions, but cannot actually sample sounds itself. For this you're better off with one of the many sampling cartridges from Microdeal (☎ 0726 68020). These come in 8-bit and 16-bit sample-sizes, in stereo or mono. All the Microdeal systems include a GFA listing for playback.

If you use the array method, you won't have any trouble with the compiler. The sample data is read into the array when you run the compiled program so you don't need to change the sample datafile at all.

EARLY POCKETS BUGS

Having just upgraded from a very old 520ST to a 520STE I was very disappointed – in fact, even a tad angry – to find that the Bitmap Brother's *Magic Pockets* is not 100% compatible with my STE, even though the distributor insist it is.

If you play the game until all the credits are used up, it stalls and only a reboot brings it back. Other little quirks are that if you leave the demo running until the end of Stage One and it stalls, go left at the start of Stage Two in the caves, and guess what – it stalls!

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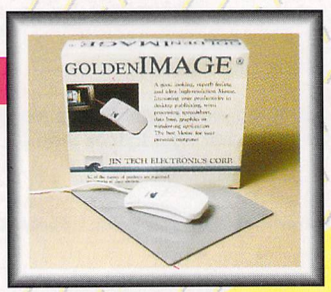
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This happens on all the STEs I have tried. Anyway, the point is what can I do and how many new games are not 100% compatible with the STE? Perhaps *ST FORMAT* could give an indication in their reviews about compatibility.

Tony Crewther
Norwich

stf: *As far as we're concerned, Tony, all games should now be fully STE compatible, which is why we don't indicate compatibility. After all, it's been around for two years now and it's considered the "standard" ST model. Even when it was first released, most of the games that didn't work with it were updated straightaway, so any problems with games running on it are extremely rare.*

We contacted Renegade about your problem. Apparently, there was an early batch of Pockets *distributed that had this bug when run on 520 STEs. It's now been solved, so either take the game back to the shop where you bought it or send it back to Renegade (C1, Metropolitian Wharf, Wapping Wall, London E1 95S) and ask for a new version. This seems to be happening quite a lot recently.*

CLAPHAM JUNCTION?

For some time now I have been considering purchasing the game *Railroad Tycoon* by Microprose. Your review of it in issue 28 of *ST FORMAT* made up my mind. I was going to purchase this program from one of your advertisers, but I had to wait until the next day in order to purchase a bank draft in pounds sterling.

That evening there was a warning on GENIE BBS, one of the three main OnLine services in North America, about the "buggy" condition of *Railroad Tycoon*. A copy of this report is enclosed. I wonder if the "buggy" ST version was limited to export copies or to the entire port over to the ST? In any event, I'll take a rain check until Microprose gets this problem sorted out. Caveat emptor!

There was nothing in your review about the ST version's "buggy condition" and I wonder if you actually reviewed it on the ST.

Leonard Mitchell
Nova Scotia
Canada

stf: *Apparently there is a bug in the production version of* Railroad Tycoon *when played on machines that have 4MBytes of memory, which means the game crashes at the copy protection screen and sometimes when you select information on a station.*

This problem can be cured with the program on this month's Cover Disk called Railroad. *It's an old PD program that temporarily makes any ST with more than 1MByte of memory think it has just one.*

On ST FORMAT *we always review completely finished games and test them on the basic 520 STE and STFMs, so we didn't encounter this problem during the review. The simple fact is that since it wasn't played on a machine with 4MByte until the review had been finished, there was no way we could mention the problem. We contacted Microprose and they say they can provide a patch program to fix the problem for anyone with a 4MByte machine, so give them a call on ☎ 0666 504326 and your problems will be over. Alternatively, why not use our program on the Cover Disk?*

Railroad Tycoon *is still an excellent game and well worth getting hold of. Since writing the review we've become even more obsessed with this classic variation to the god-game scenario.*

LATE DELIVERY

STF Jan '91 page 9 – "Unveiled: superfast Mega STE."
STF Jun '91 page 12 – "...the Mega STE, which was introduced in December 1990 [in the USA], was well received" – Sam Tramiel
STF Jul '91 page 14 – Atari commences Mega STE advertising. (Atari UK Helpline know nothing of the Mega STE at this time).
Aug '91 – UK Mega STE launch set for end September, according to Atari Helpline.
End Oct '91 – Everyone is advertising the Mega STE, nobody has one in stock. One disgruntled user decides that in spite of the hype, the Mega STE is not for him.
Need I say more?

Stephen Murgan
London

stf: *Hmmm, we get your point, Stephen. What can we say? We only report the news – we don't make it. Atari have been a bit late with their final deliveries of the Mega STE, but we are assured this is no longer a problem. If you can get your hands on a Mega STE, you'll see that it was worth waiting for, at least. Maybe they'll get their timing right for the ST Book (due out next month). Then again, maybe they won't.*

ADM'S CORPSE HAS BUGS?

I'm writing to you to ask you about my Microprose game, *Flames of Freedom*.

I've liberated all 41 islands and I've decided which island to fight the Armada off at the start of the battle. I tried time and time again to get anywhere when battling the Armada and when I did I came along to fight Adm Murphy. Instead of the usual wait while the game loaded up a picture of Adm Murphy saying he's dead, nothing happened. If you look at the map he's still there with the "O Ships" next to his name. I didn't think much of this at first and I thought it would go away, but it didn't. What was worse, I destroyed all the other squadrons. The ship squadron sailed onto Agora without any ships and let 20 tanks off onto the Agoran coast with nothing to carry them there in the first place. The tanks travelled across Agora to the HQ, as did the ships (what ships?), which followed the coast line. This meant that I lost and I got very upset. Every time I have destroyed Adm Murphy this has happened.

If this nasty bug wasn't there I could complete the entire game. Could you please tell me if this is just a bug on my game or is it a bug on the early batch of games to hit the streets?

Ian Bailey
Poole

stf: *With a game as large and complex as* Flames of Freedom, *it's perfectly possible that just such a bug has slipped through the game testing. I've not heard of this problem before, but we've completed the entire game ourselves, as have many other readers.*

Microprose were also mystified as to what the problem might be, but they suggested you contact their helpline on ☎ 0666 504399. You may have discovered something that no-one else has ever found, Ian. (But then again you may not.)

MARVELLOUS MODEMS

I'm thinking of buying a modem for my 520STFM and I'm hoping you can tell me the best modem to buy for a beginner in communications and what it would cost to run.

Sean Kelly
Sleaford

stf: *Modems have tumbled in price over the last few years. The Supra 2400 modem (£129.85) should do your job. It operates at a speed of 240 characters per second and is fully Hayes compatible (the modem standard). Call Surface UK on ☎ 081 566 6677 for more details.*

The costs of running a modem are the same as an ordinary telephone call. Most home-brew bulletin boards work using an ordinary telephone line, which is why it's advantagous to seek out a BBS in your area. Commercial systems like Cix (☎ 081 390 8446) have local nodes scattered up and down the country.

American systems such as Compuserve (☎ 0272 255111) have a UK gateway which means you can get through to the US board for no more than the cost of a local call. However, you incur on-line charges which vary depending on how you use the service and whether you need it for home or business use.

If you've got anything you want to say in Feedback, just write to The Editor, Feedback, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

SHORT BUT SWEET

Each month we receive several hundred letters – you're more likely to get a reply if you can fit all you need to say on the back of a postcard.

How about an article to cover Optical Character Recognition System (OCR) software and scanners?

Steinar Finnbogason, Reyjkjavik, Iceland

– I'm planning a feature on scanners and OCR software to run in a couple of months' time. Many of the scanner manufacturers are in the process of updating their software and I wouldn't want to conduct a scanner roundup until all the new software is completed and tested.

I am writing to you regarding the game called the *Little Computer People* made by Activision Ltd. When I bought this game and got it home to try it out, it didn't load so I sent it back to Activision Ltd, but the address I was given was wrong. Do you have the right address?

Michael Bix, Hitchin

– The game you're talking about was written in the States but distributed in Britain by Activision UK. These were taken over by Activision Europe two years ago and these are presumably the people you need to get in touch with. Write to Activision Europe, 60, rue Marcel Dassault, 92100 Boulogne-Billancourt, France. or give them a call on ☎ 010 33 1 49 10 99 95. Little Computer People *was an excellent game – each disk featured a different set of characters. Hound them until you get it sorted.*

I have *1st Word Plus* which I've tried to use on a 520 STFM. At the bottom of the screen are ten boxes corresponding to the function keys. The trouble is, when I press a function key, it doesn't affect the relevant box.

Paul Alcon, Plymouth

– Very strange! GST wrote a new version of* 1st Word Plus *to be compatible with the STE about two years ago. Are you sure you've got the latest version? If not, give GST a call on ☎ 0480 496666 and ask for their technical support line.

I saw your *Pagestream 2* review in issue 28. Your review said it costs £199.99, but it's been advertised for £129.99. Is this the same package?

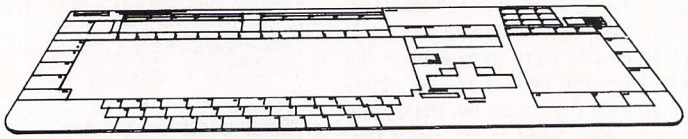
Homayoon Salehi, London

– We always quote the RRP in our reviews – shop around and you may be able to find packages cheaper. Pagestream 2 *was written in America. Check that you don't buy a grey import version of the program (one that hasn't officially being distributed here). Although the program might run perfectly on your ST, grey importers don't offer any after-sales service.*

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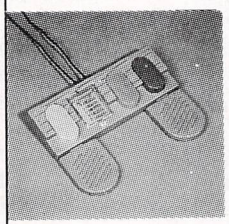
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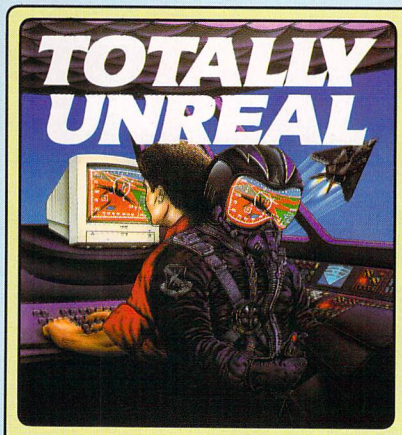
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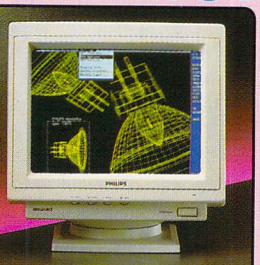
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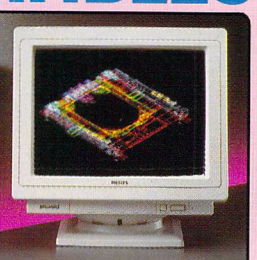
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STF January Quiz

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Ah, Christmas. It's about now that you realise you haven't done any Christmas shopping at all and so you spend the few remaining days rushing around buying small plastic Japanese orange peelers for your loved ones because you just don't have time to get anything else and would Aunt Vi like that blue china model of Stalin anyway? Never mind. Forget the ethical questions and get your head round some good old-fashioned brain-teasing quiz questions in our super, wonderful and really rather ecstatically stupendous January quiz...

Unless you've been nailed into a non-perspex, soundproofed titanium-plated box lying in the depths of the Aegean for the past six months, you've quite likely heard of a game called... (dramatic pause...) *Mega Lo Mania*. In this super-duper god-game, you take the role of a demigod and play against up to four opponents. But what if you were actually *in* the game – not just playing it, but a character on-screen? You could be, you know. *Your* face and *your* voice could actually appear in *Mega Lo Mania* to terrif – er, *entertain* ST gameplayers everywhere!

The game was reviewed in issue 27 and blushingly received an out-of-the-ordinary score of 94%. Reviewer Ed Ricketts gushed forth: "Underneath *Mega Lo Mania's* innocent exterior, there's one hell of a game waiting to take you by the throat. And once it

1 In a game of *Mega Lo Mania*, you play against up to four opponents: Scarlet, Caesar, Oberon and – who?

2 There's a game previewed this issue which features a troubadour who can sing songs to aid your party. Name one of these songs.

3 Which is the first commercial game to use the Trojan Phazer Light Gun?

4 In a game reviewed this issue, you have to throw salami at the enemies to kill them. What's the name of the main character in this game?

5 Name one of the two instruments that Dave Clackett played during his time in the Royal Marine band.

6 How many dip switches does the Laserjet 3P have?

7 How many islands are there to conquer in *Mega Lo Mania*?

8 What's the name of the car in *Wild Wheels* that acts as a goalkeeper?

9 A previewed game this issue features "one massive mutha" of a monster. What's its name?

10 Why can't you install ST-IC software on a hard drive?

11 What is a MIDI event composed of in *MIDIstudio Master*?

12 When you pause in a game of *Mega Lo Mania*, what does your secretary say?

13 How many difficulty levels are there in *Junior Typist*?

RULES BOX

1. End-of-competition-deadline-wise, Friday 10 January is the end of the world for entries to come swanning in through the (almost) brand new door of the *FORMAT* offices, down in the depths of Beauford Court.

2. It's no good cajoling Uncle Mirrorsoft, Auntie Future Publishing or even brother Jon of Sensible Software into letting you enter. They'll simply shake their heads and say, "Begone, kin of mine! Thou canst enter, notst on thine nelly."

3. We get on well with single entries sent on a postcard or a sealed envelope. They hang around the office chatting amiably until the end of the compo, then arrange themselves neatly in orderly piles. Multiple entries, however, are hunted down and destroyed by our very own "Merciless" Paula Richards in a shocking display of violence. (Believe us, it's not a pretty sight. Underneath that innocent exterior lurks a fighting hellcat with all the grim determination of a very determined thing indeed.)

4. If you don't fancy the idea of having your silvery tones and delicate mug emblazoned across thousand of ST screens, don't even think of entering. It's that or nothing, as far as prizes go.

5. We have, for a limited time and at great expense, hired the estimable Judge Nutmeg to have a look at the entries, and, as you probably know, he's not a man to be argued with. So, no whingeing if he says you haven't won. (Mr Nutmeg appears courtesy of Reeves and Mortimer Productions.)



● ***Mega Lo Mania*** **from Mirrorsoft caused quite a stir, thanks largely to its use of digitised voices. Win this issue's compo and it could be *your* voice the massed population of ST owners hear as they play the forthcoming data disk!**



● **Mr Arnold Barbarian of Purley writes: It was with some mortification that I ascertained your intention to expunge my appearance from your software. As a professional cartoon character, I feel my reputation impugned. What do you mean by using *real people?!***

does so, you won't want it to let go." (It's unpleasant to see a grown man dribbling with pleasure.)

Mirrorsoft, the game's publishers, were also quite pleased with Sensible Software's meisterwerk. In fact, they're so chuffed they plan to release a data disk for it sometime in April. The disk will feature a new set of enemies for you to play against, with new digitised voices (the voices being one of the best features of the game), and, of course, a whole new set of islands to play on.

So, what's all this got to do with the quiz? Dunno really. Oh, hang on, yes we do. Instead of using the same actors for the voices, Mirrorsoft thought it might be a good idea to have the digitised voices of two *ST FORMAT* readers in there instead, saying things like "Do you want to come on my team?" and "Get lost, buster." And perhaps slip in a digitised picture or two of their faces, just so there's no doubt as to who they are.

So that's the incredible prize for this month's quiz. Two winners, who answer these criminally easy 20 questions correctly, will have their faces and voices immortalised in the *Mega Lo Mania* data disk, for future generations to lau – admire. Fancy being part of software history? Zip through these teasers and get your answers to *STF*. Immortality beckons!



● **Three of the phizogs currently featured in the game. How would you like to see your own prized mug plastered on your screen? Well, stop reading the stupid captions and answer the questions, then.**

14 What's the footprint of the only laser printer reviewed this issue (not in the supplement that came with it)?

15 How many possible spells are there in *Legend*, according to Tag?

16 How long does the ST-IC give you to program an RCU button before it gives up?

17 What's the name of Jonah Hayes' ship?

18 Nice parallax, shame about the gameplay. Game?

19 How many words can you have in a single word bank in *Robot Words?*

20 At the end of *Mega Lo Mania* there's a huge scrap where everyone tries to kill everyone else. What's its name?

Nothing to it – for a demigod! Just slap your answers onto a postcard or sealed down envelope (with your name and address, of course) and send it to: Helping *ST FORMAT* With Their Enquiries, 29 Monmouth St, Bath, Avon BA1 2DL by Friday 10 January.

DECEMBER QUIZ ANSWERS

Busloads of first class games were just begging to be taken last month. Because we're a bit daft, you get the answers this month and the winners next. Here we go...

1. Which mendacious member of a programming team was less Oriental than he first appeared? **Mev Dinc**
2. Small is sometimes beautiful. Choosing the smallest object in a certain program reviewed in *STF* 29 can reward you with a digital affirmative. Which program? ***Shapes and Colours***
3. You've just bought Stereo Replay for your Mega 4 ST. How many seconds of sound can you fit in memory (sampling at 22kHz, 8-bit mono format, naturally)? **160**
4. In which game would you find music more suited to a game show than to an ST program? ***Vroom***
5. You might have heard of Apple and Apricot. But which fruity company produce the Mark 4 Digitiser? **Cherry Electrical Products**
6. *Autoplay*, on Cover Disk 29, enables you to produce animations using a script file. Any word processor or text editor can be used for this, but what's (probably) the best – and was also given away on Cover Disk 28? **ST Writer Elite**
7. On which date did Martin get a joke? **6 March (you can imagine the celebrations)**
8. Stewart Gilray, Richard Fox, Andy Smith and Steve Chalmers work for which company that you were introduced to in issue 29? **ESD**
9. The manual of which musical program reckons you can write a song in two minutes flat? ***Band in a Box***
10. In a game reviewed in *STF* 29 there's a real Oriental person who would be very glad to received a certain comestible. Name that comestible. **Cooked chicken**
11. How much free space (in kilobytes) is left on Cover Disk 29? **None whatsoever**
12. When someone wrote complaining that his game didn't work correctly, the spokesman for a particular games company responded to the letter with "You're lucky yours works." Which games company? **Accolade**
13. Which icon in *Robin Hood* enables you to scroll the screen to see more? **The eye**
14. What does Chuck Rock throw at the bird to wake it up? **A beer can**
15. Which peculiarly-titled company designed and built the K..AT? **Friend-chip (and come to think of it, what does K..AT mean anyway?)**
16. *Formula One Grand Prix* is the next promising release from Microprose. How many circuits does it include? **16**
17. Something reviewed in *STF* 29 could easily cover more ground than the USS Enterprise. What's its title? ***ST Artist***
18. Three names were suggested but rejected for inclusion in a previewed game in *STF* 29. What was the second name in the suggested list? **Higham**
19. Which company is about to publish *Chaos, Fractals and Computers?* **Sigma Press**
20. What Quality of Life rating do you need to attain to consider each scenario completed in *Utopia?* **80%**

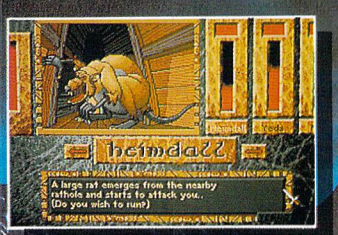
NOVEMBER QUIZ WINNERS

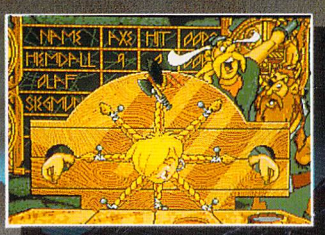
In the quiz that has already gone down in history as "the November quiz," we gave away five fantastic *PageStream 2* packages. The lucky lucky winners are **Adam Payne** from **Worcestershire, Colin Passey** from **Middlesex, Stefan Smyth** from **Dublin, B Christie** from **Arbroath** and **Ms S Leech** from **Edinburgh.**

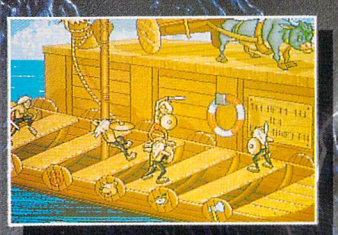
HEIMDALL

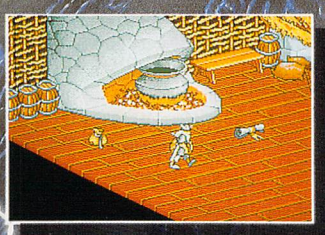


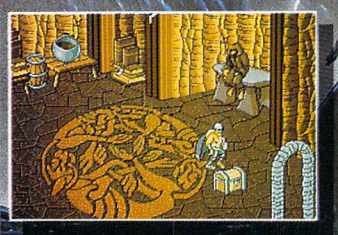
Norse legend tells of a time when the Gods of Valhalla and Asgard created a race known as the Vikings. Born to represent his people at the battle of Ragnorak, Heimdall must first fight, solve puzzles and explore the Viking world to find the weapons of the Gods.















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We control the horizontal, we control – no, hang on a moment, that's the other thing, isn't it? This is much weirder than anything *they've* ever done. This is the

Twilight zone

GOTCHA!

Okay, okay! So the *ST FORMAT* competitions are red-hot, super-special events, with loads of fantastic prizes on offer every month. The whole world knows that! Questions have even been asked in the House of Commons ("What's the answer to number 15, then?" – Secretary of State for Ataris), and various crowned heads of, er, countries which have kings and queens have also demanded to know how we can offer such incredible prizes. ("How can they offer such incredible prizes?" – Prince Somebody or other... You get the idea.)

But we're not stupid. At *STF* we've all had to go on an eight week long course called "Multiple Entries: How to spot them and how to stop them." We've examined more envelopes and postcards than the Metropolitan Police Forensic Dept and the UN Iraqi Nuclear Investigators put together.

So, Mr T V Tweedie, Mr J Grabham, Mr A I Tweedie and Kath Tweedie from Edinburgh, and Mr George Hill, Mrs J Hill, Ms S Morris and Mrs T McCulloch from Birmingham, consider yourselves well and truly rumbled. Your cunningly disguised attempts to copy each other's work down to the last detail on your recent competition entries (including handwriting and layout) have not gone unnoticed.

Trouble is, somehow none of your entries got back from our electron-microscope and genetic sub-atomic particle viewer in time for the compo draw. Oh dear. Life's a bitch, innit?

WHO'S WHAT?

The four faces in Atari's ad supposedly represent each of the ST's strengths:

GAMES

The Android – known to the film crew as "The Android" and "Bob." Currently appearing in "The Closet" behind the Royal Opera House, Covent Garden.

EDUCATION

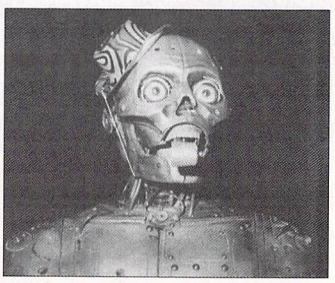
Albert Einstein – dubbed a thickie by his maths teacher, he couldn't master the art of talking until he was four.

ART AND DESIGN

Vincent van Gogh – frustrated artist who cut his ear off because he couldn't afford an ST, and consequently French-brushwielder Degas (who could afford one) got all the hype.

MUSIC

"MC Squared" – the dopiest, flyest rubber rapper you can find this side of LA. Actually, it's the same white geezer in a rather nobby-looking mask which is bound to annoy black rappers everywhere. Tsk, tsk, Atari.



● Ah, Bob. I shall call you "Bob." Come in. You seem to be in a rather festive mood, if I'm not mistaken...

OVERHEARD...

At recent Atari developers' conference, Atari's second in command, Leonard Tramiel, was heard to repeat, many times, "Atari aren't stoopid!" We can only assume this is because (a) somebody said they were or (b) it's part of a self-conditioning mantra. I wonder...

TEN THINGS TO SAY TO: (NUMBER 327) AN AMIGA GAMES MACHINE OWNER

❶ MIDI sockets!
❷ Did you say only 7MHz?
❸ *Calamus!*
❹ Amiga? That's a bit like Nintendo, innit?
❺ Sorry, *how many* viruses did you say you had?
❻ So, what's your favourite programming language?
❼ Nothing quite like a hand-cranked operating system, is there?
❽ What's that hot box for? A foot-warmer?
❾ Compatibility, hah! Now you know what it's like! (This one works equally well if you just say "500-Plus.")
❿ Ooooo, I don't think you wanted to buy that now, did you?

AD NAUSEAM

You've probably seen them by now – and if you haven't, where have you been hiding for the last few weeks? The new Atari ads, love 'em or hate 'em, hit our TV screens in November and are a different breed to the paint-splashing mayhem of earlier campaigns. Here's a few useless bits of triv you can use to convince your mates you're really Barry Norman next time you're down the pub.

The ads were created using the very best stop-motion camera in Europe. Worth over half a million quid, it's the only one of its kind and it lives at Peerless Productions' Covent Garden studio.

The 2.5 million pound campaign was turned around in record time. Although the storyboarding and initial design took place in May and June, the actual shooting took only four days in October. Editing took place immediately afterwards and the final advert was ready for screening just two weeks later, on 14 November.

Three forms of the basic advert were made: a ten second "quickie" for peak times, a 30 second "full" version, and an extended 60 second remix, for showing in cinemas up and down the country.

The soundtrack was created by Simon Boswell, the man responsible for the music in the UK-made cyberpunk movie *Hardware*.

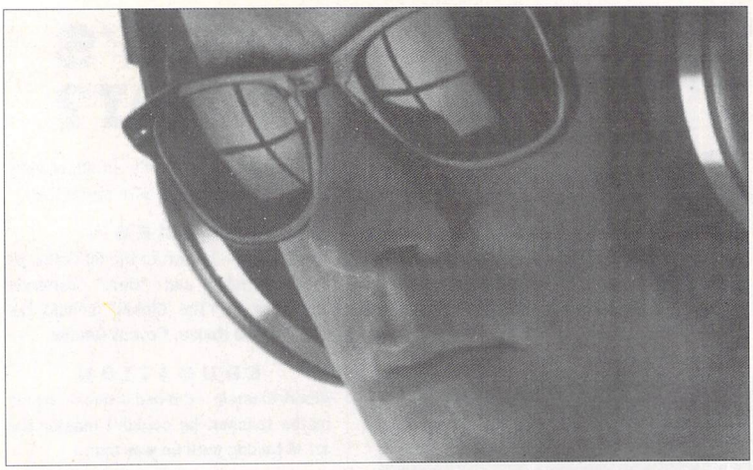
The ad was directed by Bob Laurie, whose previous credits include directing an advert for Appletize.

The tearing faces and android head were the creation of Aaron Sherman, the prosthetics genius behind similar special effects in Terry Gilliam's amazing film *Brazil*. And why not, as Barry might say...

THE HYPE-BUSTERS GUIDE
LESSON FOUR – GAMES ADVERTISING

WHAT THEY SAY	WHAT THEY REALLY MEAN
❶ Out now!	Coding to start as soon as we've found some developers who'll do it for the ridiculously low sum we're offering
❷ In-Depth Strategy Software	A manual as thick as a concrete doorstep
❸ Stunning Graphics!	Forget the gameplay – we did!
❹ As advertised on TV	For around 3.7 seconds during Motormouth, while you were still asleep
❺ Actual ST screenshot	Created in *Degas Elite* just before we printed the boxes it comes in
❻ Coin-op conversion	Well, we got the front-end screens right, just the gameplay is different
❼ Amazing four-disk package	We haven't worked out what compression is, and hey, your drives need a workout
❽ Hours of amazing arcade action	Same game, different graphics
❾ The game of the film	We aren't allowed to show pictures of any of the actors or follow the same plot
❿ 100 levels	You'll never get past Level Four, or find the fatal bug on Level 68

Thanks to Dave Hackett from Westburn, Glasgow, and Matt Underwood from Beverley for this month's top tens. If you've got a top ten list you'd like to share with the world, drop us a line at Top Tens, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. Just make it sure it's funny, okay!



● Our ex Art Editor looks positively radiant in this "new-wave" plastic head gear. We had queries from several readers wondering why Matt Dillon crept into last month's Twilight Zone. It seems that Martin "just call me vain" Parfitt spiked this piccie of himself and replaced it with Dillon – wonder why?

TEN REASONS TO SUBSCRIBE – BY A SUBSCRIBER

1 You save money.

2 You are absolutely guaranteed a copy of *STF* every month.

3 Inside every edition of *STF* you get a "subscribers-only" information letter telling you what's happening behind the scenes at *STF*.

4 Each copy is delivered direct to your door – no more running down to the newsagent.

5 You get free access to the Subscribers' Club, which has many exclusive and exciting offers that you can't get elsewhere.

6 Each month your copy arrives at your house *before* it appears on the newsagents' shelves.

7 Thanks to point six, you get first crack at entering all the competitions.

8 Every year, there are *super* editions (like the one you're reading now), which have two cover-mounted disks. These sell in the shops for £3.95, but to subscribers they cost the same as normal issues.

9 You get to choose one of four amazing software titles as a gift. (You can have a preview of what they are on page 142.)

10 Er, no. That's not it! – You can send in your list of reasons, like subscriber Malcolm Begg from Stonehaven did with this one, and see your name in print... maybe.

SO, WHAT ABOUT NEXT MONTH, THEN?

Mark it in your diary – Thursday 9 January. It's almost certain to be a momentous day in your life – the start of a month when the entire ST scene becomes clear to you. Next month we're devoting the issue to beginners. If you're new to the ST – or even if you don't know everything about everything, and let's face it, which of us does? – then next month's issue is for you. We're looking at how to make the most of the ST Desktop, how to shift your files around and how to recognise different program files. Then we're looking at all the ST technical jargon and revealing what it means. We're also detailing the best buys in a range of different ST applications, so you can decide what you need before you spend your Christmas cash. If you've ever been puzzled by the concept of Public Domain software, baffled by the way game cheats are discovered or confused about how to make the most of your Cover Disk, then catch our in-depth explanations of all these subjects and more.

Even if you're not an ST newcomer, even if you can put your hand on your heart and say there's nothing new anyone can can tell you, your favourite magazine is still bursting with regulars, roundups and reviews. The Cover Disk features a demo of Microdeal's *Stereo Mastersound*, and if you enjoyed our *Sequencer One* package, we're putting more useful samples onto this month's disk. Also for next issue is our much-promised review of *Timeworks DTP 2*. It's been delayed by all sorts of problems – the manual has only just been finished – and although we've been bombarded with so-called "reviewable" demos, we've held out to bring you a definitive and step-by-step review of this follow-up to the most popular DTP package you can buy. By the time we've finished with *Timeworks 2*, you'll know everything about it that's possible.

On the games front, we're getting our hands on Microprose's *Grand Prix* (if they can ever finish it) and we're doing the business on Ocean's big licence *The Simpsons*. Is Bart worth your money or is this just another excuse to churn out the same old game styles but with different graphics? Find out on Thursday 9 January. As usual, we're also delving into the Public Domain to bring you the best buys for your ST, including a look at the new version of the *Universal Item Selector* – a handy Desktop Accessory. Then there's more in-depth news, previews and tips than any other magazine. Make sure you get down to your newsagent on Thursday 9 January for a very special issue, or reserve a copy by using the coupon below, or turn to page 142 and make absolutely sure by subscribing. Don't miss out!

Got trouble finding *ST FORMAT?*

Having problems getting hold of a copy of *ST FORMAT?* Because of our incredible efficiency, Britain's biggest, best-selling ST magazine has been going on sale in some places earlier than the advertised date – so it may be sold out before you get in the newsagent's door.

So, if there isn't a copy on the shelf, ask the assistant. They might have some more in the back room. If not, check one of the bigger newsagents, like John Menzies or WH Smith. If you don't want to subscribe – and see page 142 for some good reasons why you should – fill in the form below and hand it to your newsagent, who'll be delighted to reserve you a copy.

Still no luck? Then call Annie Gronow on ☎ 0225 442244, tell her which of Future's magazines you're after and where you've tried to get hold of it, and she'll sort it all out!

Complete this form and hand it to your newsagent

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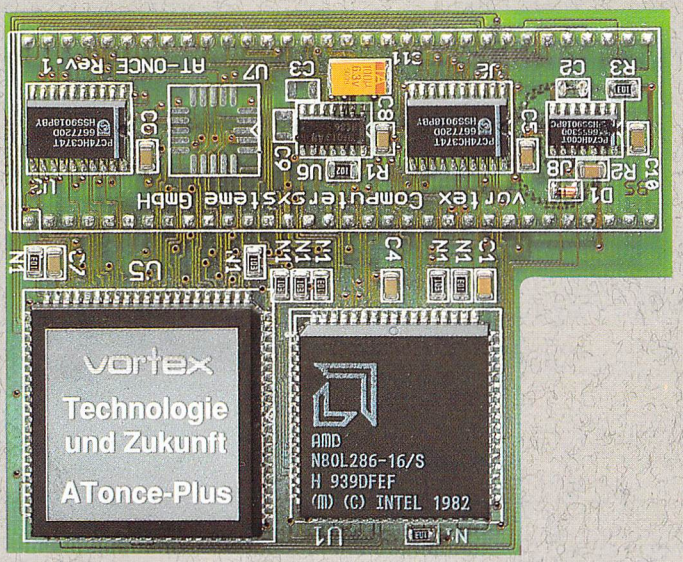
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Wizard PD 76
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VORTEX ATONCE-PLUS

16 MHZ AT-EMULATOR FOR ATARI ST/ MEGA ST

£199,-
Manufacturer´s
Suggested Retail Price



VORTEX GATE ARRAY

The vortex CMOS Gate Array, the ATonce Chip-Level Emulation and ATonce AT-BIOS give the emulator a very high degree of AT compatibility.

16 MHZ 80286 CPU

vortex ATonce-Plus is based on the standard AT microprocessor.

VORTEX ATONCE POWER ON BOARD

vortex ATonce-Plus converts your Atari ST or Mega ST computer into a powerful 16 MHz 80286 AT system.
It is developed and produced in Germany by vortex Computersysteme GmbH.

vortex ATonce-Plus gives your Atari ST or Mega ST computer a complete AT emulation, that includes hard disk support and integration of RAM, emulation of the parallel and serial ports as well as EGA-/ VGA monochrome graphics and others in colour. Thanks to the highly integrated vortex CMOS Gate Array and the vortex AT-BIOS the world of DOS with thousands of programs becomes accessible (e.g. dBase, Excel, Lotus, Windows, Word).

vortex ATonce-Plus does not affect the normal operation of your Atari and is totally transparent when not in use. You can work under DOS as well as with your Atari software under TOS.
The ATonce-Plus board plugs directly into the Atari. When using the optional plug-in-adapters for the 1040 STE and the Mega ST no soldering of the socket is needed. This makes installation much easier.

SPEED AND COMPATIBILITY THE PLUS OF EMULATION

- 16 MHz 80286-16 Bit CPU
- SMT (Surface Mount Technology) compact circuit board with low power comsumption and highly integrated CMOS Gate-Array
- Norton SI rating: 8.0
  MIPS Test: 108%
- Full 704 KB of DOS base memory are available with 1 MB RAM. All memory above 1 MB can be used as Extended/ Expanded Memory, e.g. as program memory under Windows 3.0. ATonce-Plus runs unrestrictedly in the Real and in the Protected Mode
- With ATonce-Plus the following video emulations are available: EGA- (640x350) and VGA- (640x480) monochrome graphics (as far as this is possible with an Atari ST/ Mega ST), CGA, Hercules, Olivetti and Toshiba T3100
- ATonce-Plus will work with hard disks that use an AHDI3.X compatible partition scheme
- Installation of up to eight logical STs on one physically existing ST with the accessory vortex HyperSwitch that enables direct and fast switching between Atari/ TOS and ATonce/ DOS
- Creation of individual DOS-screen-fonts with the font-editor vortex FontMaster
- Complete integration of HD floppy drives. 3.5"/ 5.25" disk drives with 720KB/ 360KB are fully supported
- ATonce-Plus supports the Atari laser printer SLM 804, sound, RTC and the CMOS RAM
- The Atari mouse can be used as a serial Microsoft mouse. It can operate at COM1 as well as COM2
- The parallel interface can be used as LPT1 under DOS
- All MSDOS versions from 3.2 up to 4.01 and DR-DOS 5.0 have been tested successfully
- ATonce-Plus is delivered with a detailed user manual. A 3.5" Atari disk that contains the installation and emulation software is included. DOS is not included
- ATonce-Plus can be fitted in the 1040 STE and Mega ST without soldering the socket by using the optional vortex plug-in-adapters
- For further information or the update-service, please contact your local Atari dealer or call Compuserve Box # 100015,330

vortex Computersysteme GmbH - Falterstraße 51-53 - D-7101 Flein - Tel +49-7131-59720 - Fax +49-7131-55063
SDL - Unit 10, Ruxley Corner Ind. Estate - Sidcup, Kent, DA14 5SS - GB - Tel 081-309 5000 - Fax 081-300 5440

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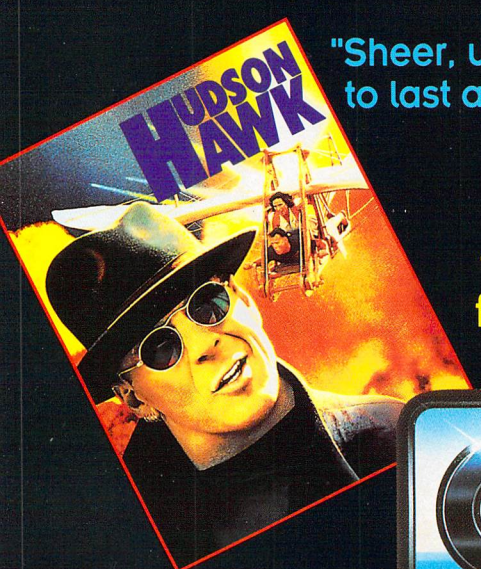
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YOUR LOCAL
VIDEO RENTAL STORE

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Sensitive.
Law-abiding.
Polite.
Respectful.

BRUCE WILLIS
HUDSON HAWK

...I don't think so.

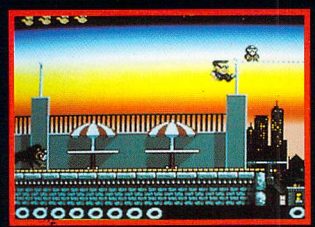
Now
steal in on the game...



"Sheer, unadulterated addiction...which is guaranteed to last a lifetime...infuriatingly addictive game-play... grab onto it with both hands"
ACE

"Excellent graphics move well... the comic animation will raise a smile from even the most hardened hearts."
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